



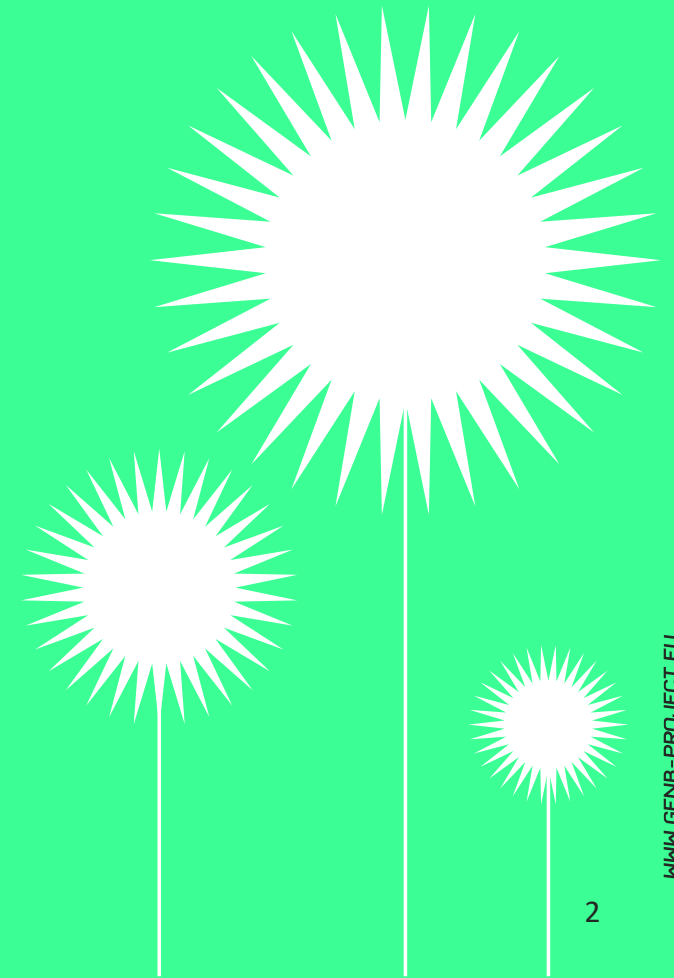
GenB Capacity Building webinars: Basic Level 2

May 16th 2024 | 18:00 –
19:30

Equipping GenB ambassadors to actively
“take a role” by actively promoting a
sustainable bioeconomy

Index

1. Module 1: Overview of the GenB toolkit
2. Module 2: Bioeconomy job profiles
3. Module 3: Quizzes and educational cards
4. Module 4: Games and gamified solutions
5. Module 5: Educational videos
6. Module 6: Students2Students





CAPACITY BUILDING WEBINAR

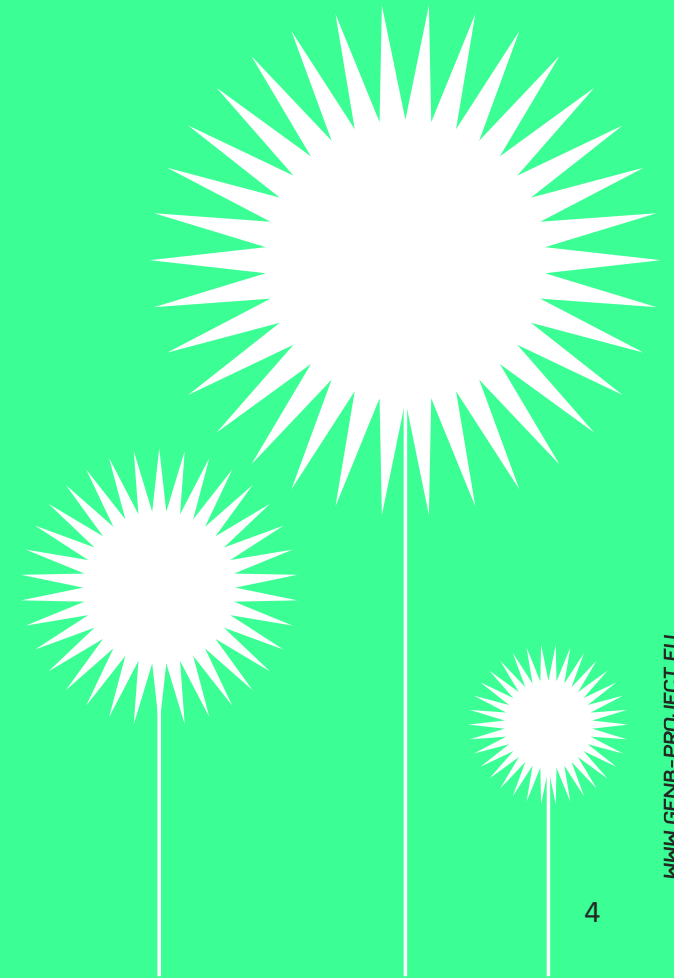
Basic Level 2

Module 1: Overview of GenB Toolkit

Clara Blasco - AIJU

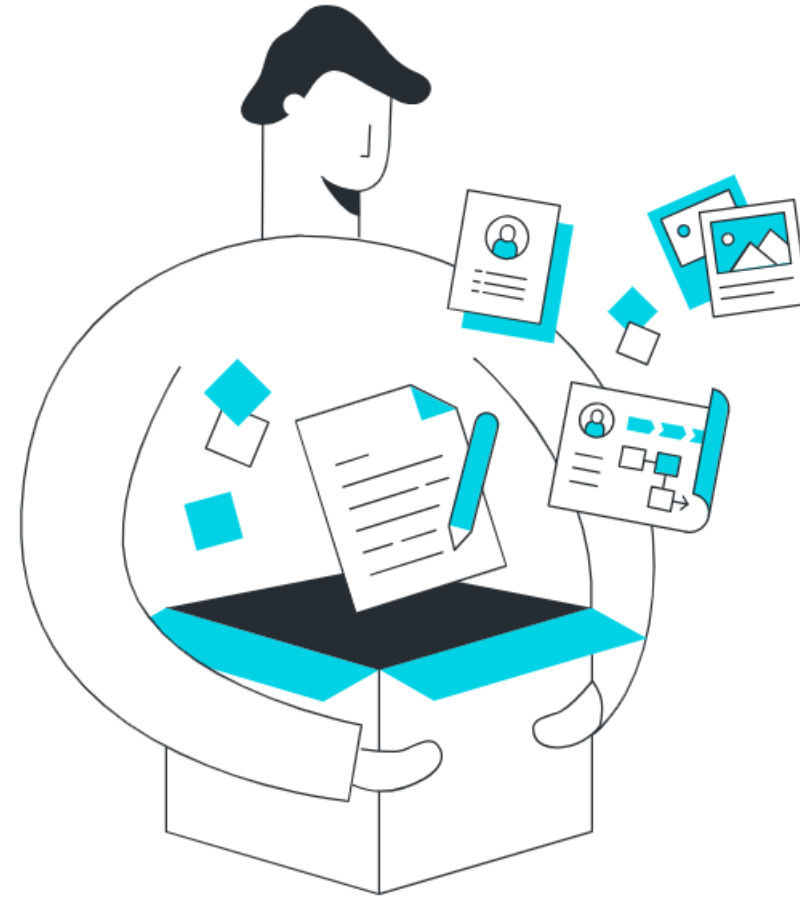
Index

1. Warming up (eco-friendly) engines
2. The ultimate GenB toolkit
3. Where is the GenB toolkit located?



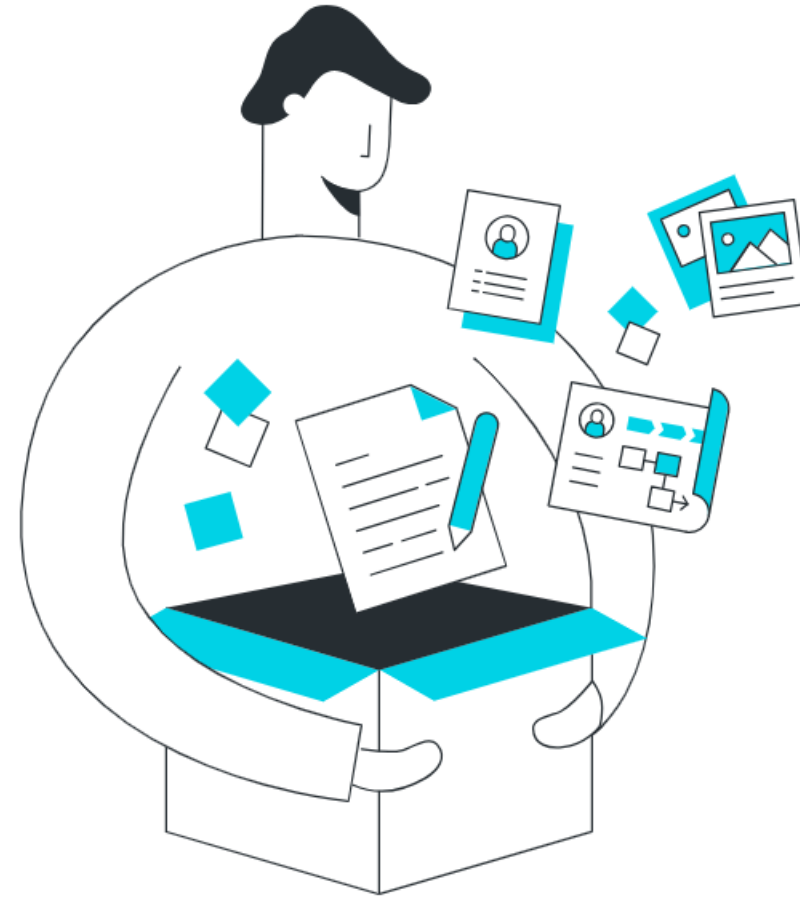
What is a toolkit?

"A set of **resources, tools, and instructional materials** designed to facilitate the understanding and **learning** of **key concepts** related to a topic."



What is a GenB toolkit?

A comprehensive and diverse set of resources, tools, and instructional materials designed to **educate, raise awareness, and facilitate understanding of the bioeconomy**



Who is the GenB toolkit aimed at?



Children from 4-8 years old



Preadolescents from 9-13 years old



Adolescents from 14-19 years old



Teachers



Multipliers

What materials constitute the GenB toolkit?

#1 “What’s Bioeconomy?” - Books for kids

#2 “ BioHeroes: Let’s save the planet! ” - Role play card game

#3 “Super-bio” - Educational board game

#4 “Escape4Future” - Gamified experience

#5 “Biowiz: sustainable minds” - Quizzes and educational cards

#6 Video teasers and educational videos

#7 Online factsheets “bioeconomy job profiles”

#8 Hands-on experiments

#9 “The Apple That Wanted to Travel” - Fairy tale

#10 Participatory photography

#11 Podcasts

#12 Lesson plans

More focused on teachers and educators:

#13 Educational and informational packages

#14 Training contents

#15 Massive Open Online Course (MOOC)

Books for kids

“**What’s bioeconomy?**” illustrates a story of a family living in the world of a sustainable and circular bioeconomy, where something new can come out from what is usually wasted.

Core target: 4-8 y.o.

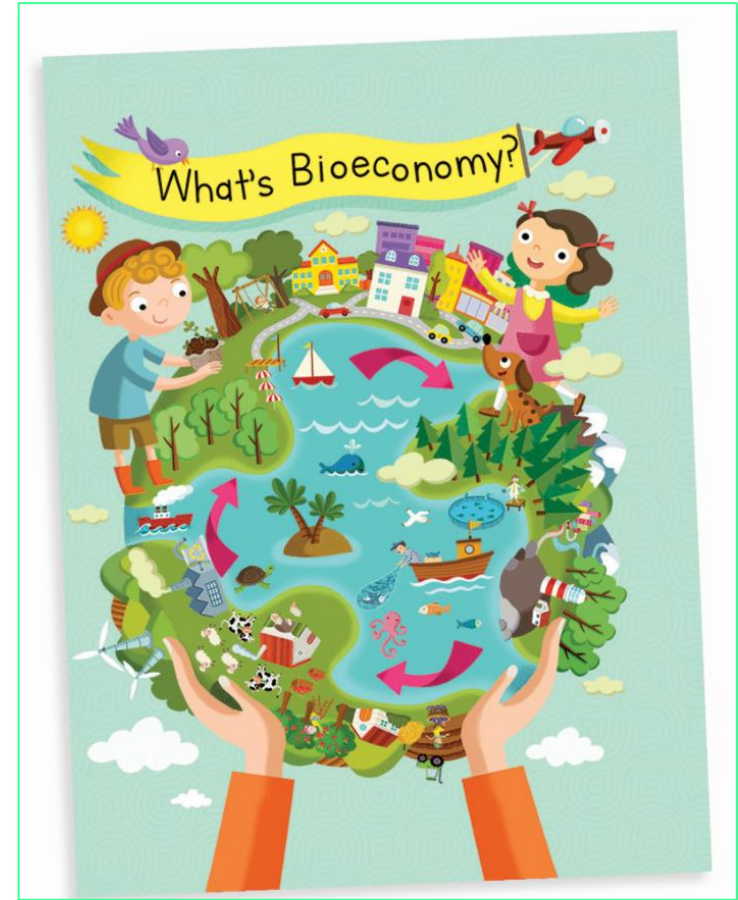
Secondary target: --

Format: physical book, interactive book, online

Languages: Multilanguage (16)

Location: [GenB website](#), [BIOVOICES](#) & [Transition2bio](#)

Full launch: October 2024



Role play card game

“**BioHeroes: Let’s save the planet!**” is an immersive card game which aims to educate in a fun and practical way about not only what kinds of professions can arise in the bioeconomy, but also to familiarise them with the specific tasks they perform and how these relate to each other.

Core target: 4-8 y.o.; 9-13 y.o.

Secondary target: teachers

Format: print to play, online, downloadable

Languages: EN,FR,IT,GE,NL,SP,PT,GR,SL (9)

Location: Soon at [GenB website](https://www.genb-project.eu)

Full launch: December 2024



Educational board game

It is a game where the participants will learn about circular bio-economy and bio-based production in different environments through quizzes, actions, interactions. They will create new bio-based products by completing the recipes assigned to them. Each recipe can be considered completed when it is transformed into a bioproduct, at the biorefinery.

Core target: Over 8 y.o.

Secondary target: teachers

Format: print to play, online, downloadable

Languages: EN,FR,IT,GE,NL,SP,PT,GR,SL (9)

Location: --

Full launch: December 2024



Game "Escape4Future"

The “**Escape4Future - Chemistry meets Circular Bioeconomy**” engages students and parents in solving six interconnected enigmas that address green chemistry and bioeconomy issues through hands-on experiments or games. The objective is to find the way out to a more sustainable and circular lifestyle.

Core target: 14-19 y.o.

Secondary target: --

Format: online, downloadable

Languages: EN,IT

Location: Soon at [GenB website](#)

Full launch: December 2024



Quizzes and educational cards

“**Biowiz: sustainable minds**” attempt to bring the basic concepts of bioeconomy in a gamified and visual way.

Core target: 14-19 y.o.

Secondary target: teachers, multipliers

Format: print to play, professional printer, web, social media, online, downloadable

Languages: EN,FR,IT,GE,NL,SP,PT,GR,SL (9)

Location: [GenB website](https://www.genb.eu)

Full launch: December 2024



Video teasers and educational videos

By harnessing the power of storytelling and visual examples, GenB videos aim to captivate audiences, spark curiosity, and drive engagement in GenB.

Core target: 4-8 y.o.; 9-13 y.o.; 14-19 y.o.

Secondary target: teachers, multipliers

Format: online

Languages: EN,FR,IT,GE,NL,SP,PT,GR,SL (9)

Location: GenB website

Full launch: December 2024



Online factsheets

“**Bioeconomy job profiles**” aims to awaken interest in young people about the different jobs that coexist in the bioeconomy. In this way, they can discover aspects that they did not know and motivate them to learn concepts to develop and implement in the bioeconomy.

Core target: 14-19 y.o.

Secondary target: teachers, multipliers

Format: online, downloadable

Languages: EN,FR,IT,GE,NL,SP,PT,GR,SL (9)

Location: GenB website

Full launch: December 2024



Module 1. Overview of GenB Toolkit – The ultimate GenB toolkit

Hands-on experiments

Three experiments where young people actively participate with the aim of discovering many uses for bio-waste and seeing how it can be transformed into products.

Core target: 6-13 y.o.

Secondary target: 4-8 y.o.; 9-13 y.o., teachers, multipliers

Format: online, downloadable

Languages: EN,IT

Location: Corn experiment, Toothpaste experiment, Fruits experiment. Soon at GenB website

Full launch: December 2024

Ingredients and materials
FOR THIS EXPERIMENT YOU WILL NEED.

INGREDIENTS

- BERRIES** (obtained from parsley or spinach (dark leaf))
- CITRUS** (obtained from orange or from olive (from the orange and mandarin))
- EGG** (obtained from chicken, Tribuna Flowers (Berkaly), tomatoes, tomato or red onion peels (from tomato))
- PURPLE** (obtained from purple cabbage (i.e. red cabbage))
- FUCHSIA** (adding a few drops of lemon or white vinegar to the purple cabbage juice)
- BLUE** (add bicarbonate of soda (i.e. baking soda) to bicarbonates of purple cabbage juice)

MATERIALS

- WATERCOLOR PAPER
- BRUSHES
- SMALL BOWLS OR CONTAINERS
- TEASPOON
- COLLANDER OR SIEVE
- GLASSES

FOLLOW THE INSTRUCTIONS BELOW

- Use gloves to protect your skin from the materials and be aware that your clothing can be stained.
- Make one natural color at a time (blend each natural ingredient with the water, adding a small amount of water).
- Filter the mixture obtained through a colander or sieve, and collect the liquid in a clean small bowl or container.
- To make colors from the spices, just add a little water and use the mixture with the suspension.
- Use the color on the watercolor paper and brushes to represent the colors you want to experiment with (or discuss related to the environment and sustainability).
- Although the colors derive from food, be aware that you should not eat them! Do not keep them for a long time but use it immediately and store in the fridge for no more than a few days to be used again for you.

What did you learn?

There are many sustainable ways to use vegetables, fruit wastes or spices creatively. Natural water colors have a reduced environmental impact and are completely biodegradable and sustainable.

You have noticed that colors can change if you add different substances, starting from PURPLE. It turns to FUCHSIA with few drops of lemon or white vinegar, or to BLUE when you add bicarbonate of soda. This is because the color changes depending on the acidity. Lemon juice or vinegar are acidic, whereas bicarbonate of soda is alkaline. When you add substances to the purple cabbage juice, more acidic substances, like vinegar and lemon juice, turn it more pink and more alkaline substances turn it more blue.

Through this experiment, curiosity and interest about bioeconomy is enhanced in a simple and fun way. This experiment can be performed in classrooms but also in non-formal education settings to attract other peers and adults.

Use fruits, VEGETABLES, AND SPICES CREATIVELY: MAKE BEAUTIFUL WATERCOLORS!

Hands-on Experiments for all

GENB

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Fairy tale

“**The Apple That Wanted to Travel**” aims to introduce the concepts of bioeconomy through storytelling.

Core target: 4-8 y.o.

Secondary target: teachers, multipliers

Format: script, images. online, downloadable

Languages: EN,IT

Location: Soon at [GenB website](https://www.genb-project.eu)

Full launch: December 2024



Participatory photography

Activity to raise awareness of the many concrete applications of the bioeconomy by taking photographs and/or video recordings.

Core target: 4-8 y.o.

Secondary target: teachers, multipliers

Format: online, downloadable

Languages: EN,IT

Location: Soon at [GenB website](#)

Full launch: December 2024



Podcast

The first series of the podcast will consist of 10 episodes/fairy tales written by famous authors.

Core target: 4-8 y.o.

Secondary target: teachers, multipliers

Format: online, downloadable

Languages: EN,IT

Location: [GenB website](#)

Full launch: December 2024



Lesson plans

Lesson plans help to introduce young people to bioeconomy concepts through a combination of discussions, activities, artificial intelligence tools and interactive games. The content seeks to make complex topics accessible and engaging for young learners.

Core target: teachers, multipliers

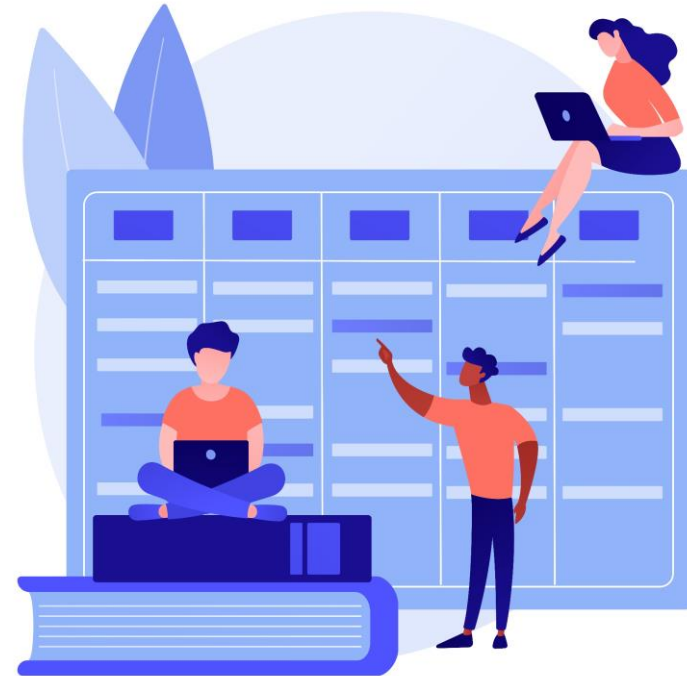
Secondary target: --

Format: online, downloadable

Languages: EN,FR,IT,GE,NL,SP,PT,GR,SL (9)

Location: [GenB website](#)

Full launch: December 2024 (first launch: June 2024)



Module 1. Overview of GenB Toolkit – The ultimate GenB toolkit

Educational and informational packages

It offers learning content that reinforces all the other toolkits so that students of the three different targets understand the concepts of bioeconomy.

Core target: teachers

Secondary target: --

Format: online, downloadable

Languages: EN,FR,IT,GE,NL,SP,PT,GR,SL (9)

Location: Soon at [GenB website](#)

Full launch: December 2024

Training contents

It offers learning content that reinforces all the other toolkits so that students of the three different targets understand the concepts of bioeconomy.

Core target: --

Secondary target: --

Format: online, downloadable

Languages: EN,FR,IT,GE,NL,SP,PT,GR,SL (9)

Location: Soon at [GenB website](#)

Full launch: December 2024 (first launch: June 2024)

Massive Online Open Course (MOOC)

It is a free, high-quality training course designed for teachers and educators across different educational settings and levels. It aims to provide comprehensive knowledge and practical tools for integrating bioeconomy concepts into teaching practices.

Core target: teachers

Secondary target: multipliers

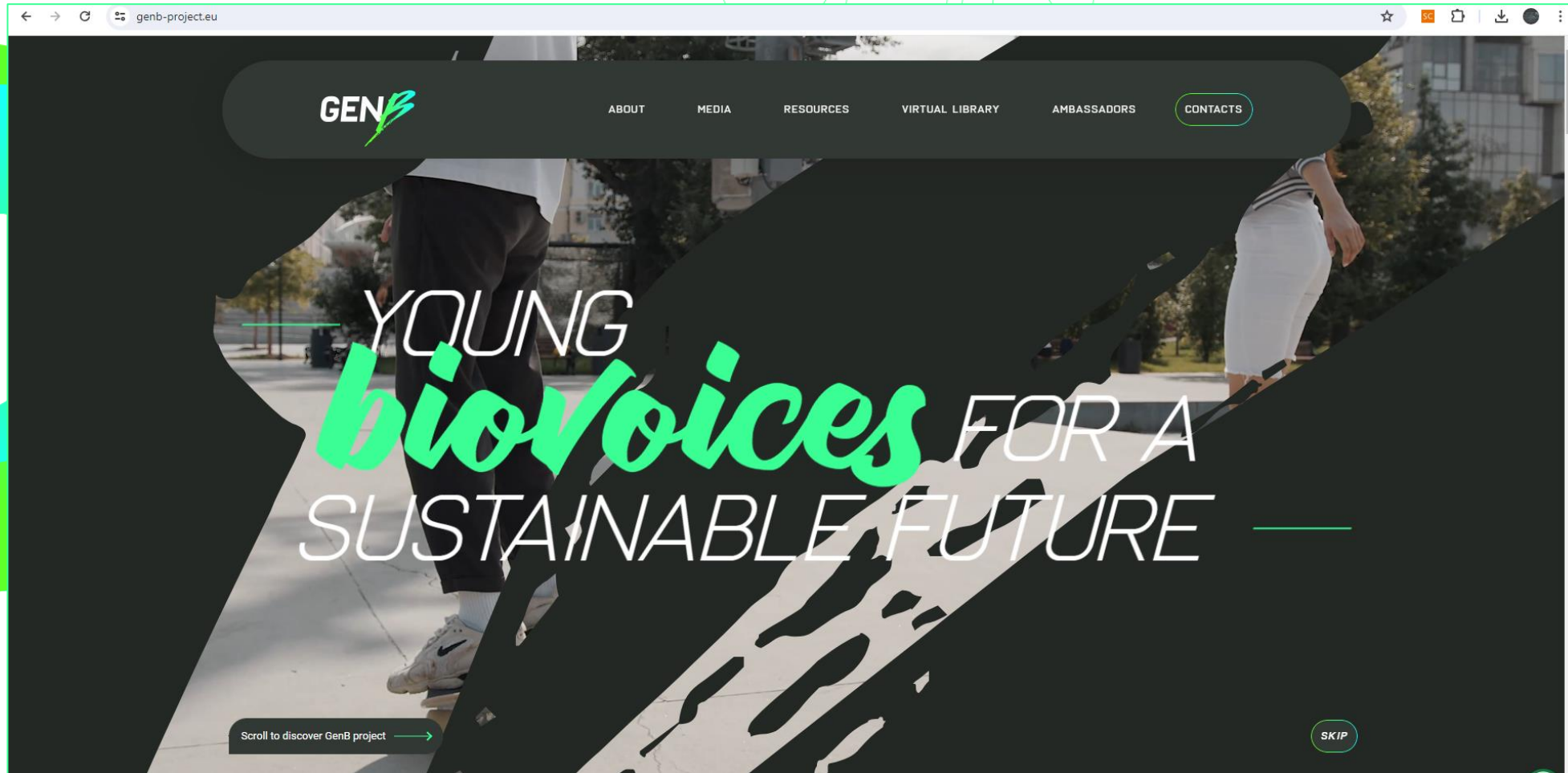
Format: online

Languages: EN

Location: [GenB website](#), EUN Academy platform

Launch: October 2024

Module 1. Overview of GenB Toolkit – Where is the GenB toolkit located?



[GenB website](https://www.genb-project.eu)



Thank you!

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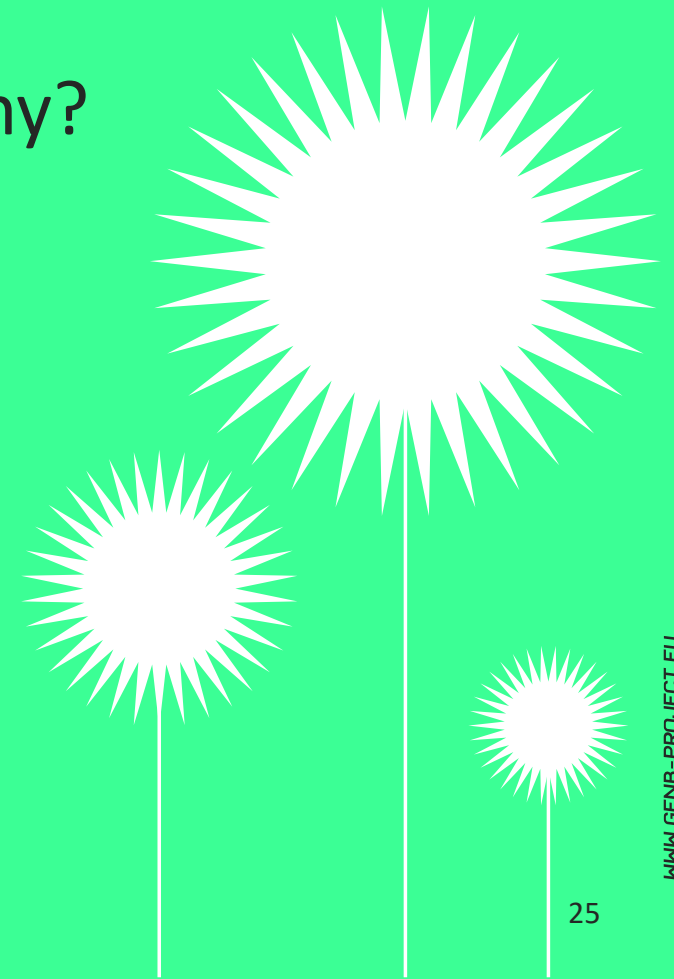


Module 2: Bioeconomy Job Profiles

Isidora Salim,
European Schoolnet

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1. How and why to talk about careers in bioeconomy?
2. Defining a job in bioeconomy
3. Become a professional in the bioeconomy field
4. Real-world connections

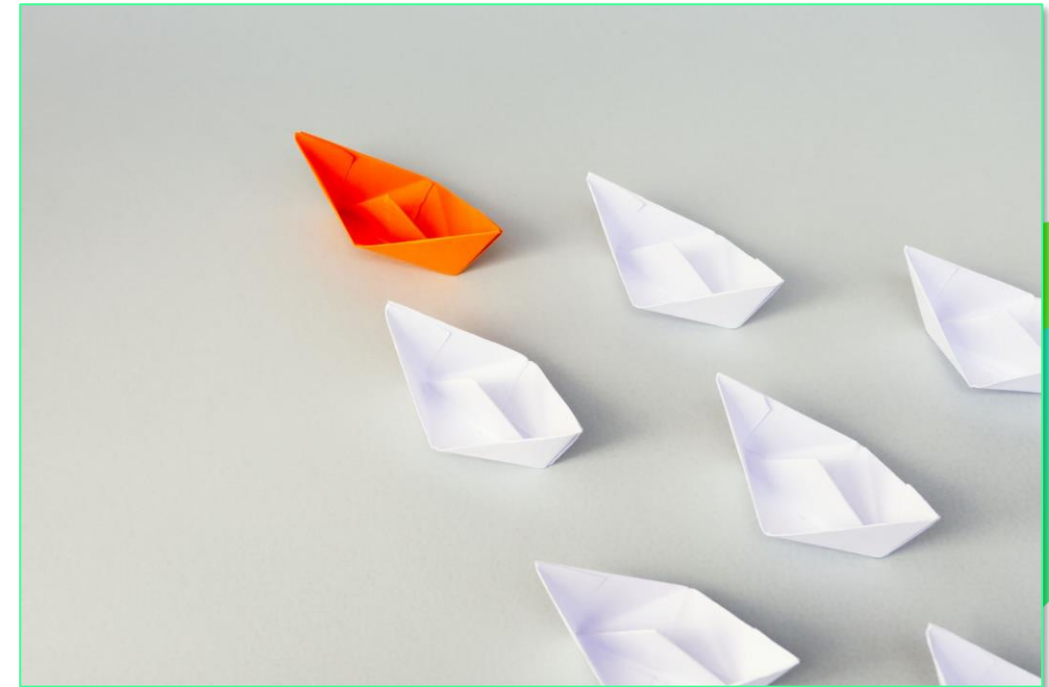


01

How and why to talk about careers in bioeconomy?

How to talk about careers in bioeconomy?

- Define the career
 - Sector
 - Industries
 - Needs
- Focus on the required knowledge → connect it to their school curricula
 - Career Paths
 - Skills
- Make real-world connections
 - Role models



Source: Microsoft Stock Image

Why to work in bioeconomy?



Diverse and new field that links existing industrial sectors with new ones



Making primary sector and industries more sustainable



Development of a unique skill set to meet future challenges



Highly qualified and sought-after profession



Work with innovative tools, technologies and companies



Creation of new knowledge, discoveries and innovations



Source: iStock image

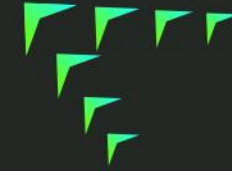
02

Defining a job in bioeconomy

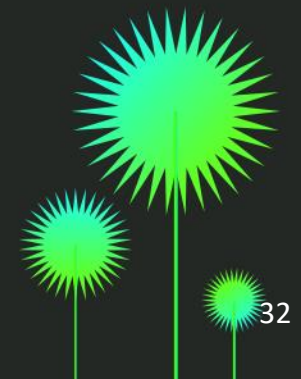
- Bioeconomy is meta-sector which contributes to sustainable development
- Promotes circular and maximal use of resources
- Less dependent on fossil fuels and non-renewable resources



03



Become a professional in the bioeconomy field



Bio-farmer, breeder, forester

- Take care of the soils and forests → avoiding harmful chemicals and planting new trees when needed
- Animals are treated kindly → without using antibiotics or chemicals, with adequate space to live
- Local bio-based production using leftovers from farming, forestry, and raising animals
- **Secondary and tertiary education:** Agricultural schools and faculties, Forestry schools and faculties
- **School curricula:** biology, geography, chemistry lessons



Source: iStock image



Source: iStock image



Source: iStock image

Biorefineries

- **Produce** green chemistry products and biofuels using bio-mass
- **Transform** waste into bio-based products, chemicals, clean energy...
- **Employ:** Scientists, technicians, administrative staff and workers
- **Secondary and tertiary education:** STEM specialised schools, lyceums, STEM related universities
- **School curricula:** chemistry, physics, biology

Source: iStock image



Fonte: Bio Based Europe Pilot Plant

Researcher

- Develops new technologies and innovative methods to create bio-products:
 - to reuse the wastes produced by different sectors
 - to discover new uses of biological resources
- **Secondary and tertiary education:** depends on the sector
- **School curricula:** depends on the sector

Source: iStock image



Source: iStock image

Skills most required in bioeconomy

- Good balance between sectoral and transversal skills such:
 - problem solving,
 - collaboration,
 - entrepreneurship,
 - holistic/systemic thinking,
 - design
 - critical thinking
- Proactive attitude
- Identifying and implementing solutions
- Managing and monitoring technical processes
- Specific skills matching companies' needs related to their geographical specificities



Source: iStock image



Source: iStock image

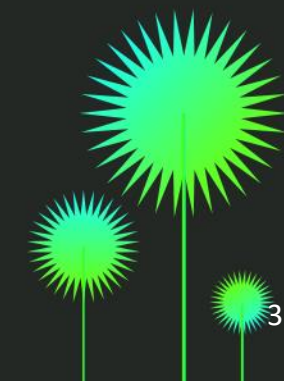


Source: iStock image

04



Real-world connections



Real-world connections

- **Provide real examples of people working in different positions in the field of bioeconomy**
- **Organise meet ups or visits**
 - Visits to Professionals place of work
 - Virtual meetings and visits
- **Encourage participation in (online) career related events**
 - Career info-days
 - Open-door events
 - Webinars
 - Career Chats
 - Job fairs

Useful materials

- **GenB Bioeconomy Job profiles**
 - Sets of teaching materials: factsheets and interviews with bioeconomy experts,
 - Explanations of career and educational possibilities,
 - Insights and experience from the field,
 - Raise awareness, inspire and motivate to pursue a profession in bioeconomy.
- **Materials developed within different projects**
- **Visit for more information:**
 - [GenB \(genb-project.eu\)](http://genb-project.eu)
 - [Resource repository \(scientix.eu\)](http://scientix.eu)





Thank you

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CAPACITY BUILDING WEBINAR

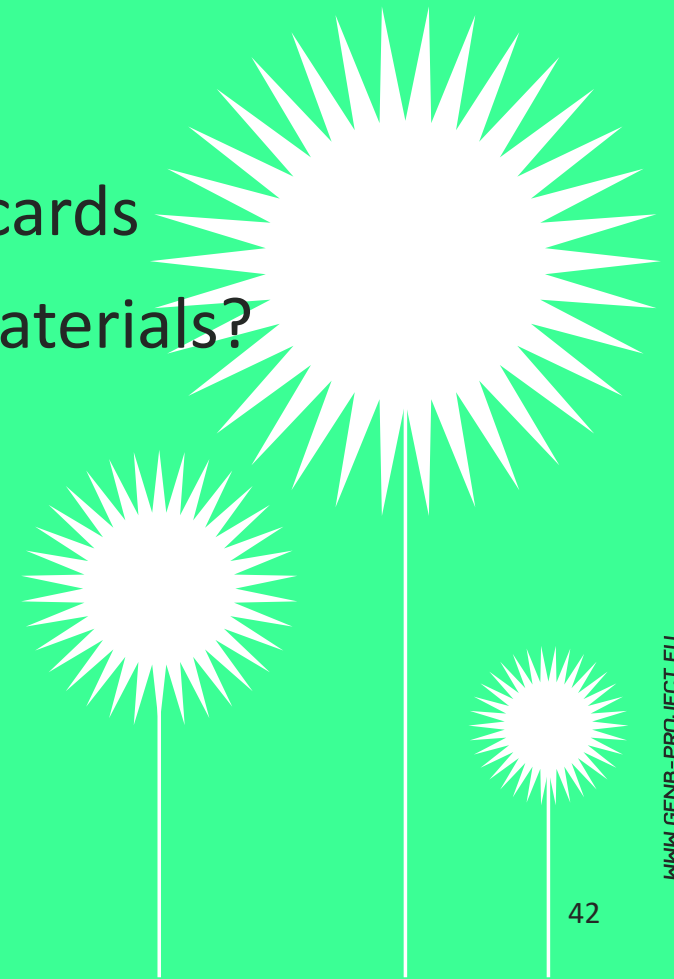
Basic Level 2

Module 3: Quizzes and educational cards

Clara Blasco - AIJU

Index

1. Introduction
2. Quiz “*Biowiz: sustainable minds*” & Educational cards
3. Where and in what formats can you find these materials?
4. As GenB Ambassador, How can you use them?
5. Hungry for knowledge? Stay tuned!



Introduction

What this material is about?

- Know the main concepts of the bioeconomy
- Be able to differentiate the main aspects of the bioeconomy
- Be aware of the different processes involved in the bioeconomy



GEN

WHAT COMMON SOURCES OF *renewable energies* are there?

SOLAR ENERGY: Solar energy stands as the most abundant among all energy resources and is accessible even in overcast weather.

WIND ENERGY: Wind energy captures the kinetic energy of moving air by deploying large turbines placed on land (onshore) or in sea- or freshwater environments (offshore).

GEOTHERMAL ENERGY: Utilizing the Earth's internal thermal energy, geothermal energy extracts heat from reservoirs through wells or other means. Extracting heat from the Earth's internal reservoirs, geothermal energy is harnessed through wells.

HYDROPOWER: Hydropower captures the energy of water flowing from higher to lower elevations, generated from both reservoirs and rivers.

OCEAN ENERGY: Ocean energy originates from technologies that harness the kinetic and thermal energy of seawater, utilizing phenomena such as waves or currents to generate electricity or heat.

BIOENERGY: Bioenergy utilizes various organic materials like wood, crops, agricultural residues, and wastes such as straw and corn cobs. These can be directly burned for heating or power generation or can be converted into transport biofuels.

Funded by the European Union

Introduction

Who is it aimed at?



Children from 4-8
years old



Preadolescents from
9-13 years old



Adolescents from
14-19 years old



Teachers



Multipliers

Biowiz: sustainable minds

Game-based learning

- A set of questions and answers to help you learn and/or test your knowledge about the bioeconomy through play.
- Context of use? Self training, Competitions, etc.



Educational cards

Learning approach based on visual and practical resources

- A set of concise information on the topic of the bioeconomy, presented in a visually appealing format.
- Educational cards can include diagrams, illustrations, text, or other visual aids to convey information effectively.



Quizzes and Educational cards

What they are used for?

- Review and **consolidate** what you have learnt
- **Study aids**
- Identify areas in which is needed to **improve** their understanding
- Encourage **active participation** and promote more **interactive** and **dynamic** learning



Quizzes



- Print to play: home printers

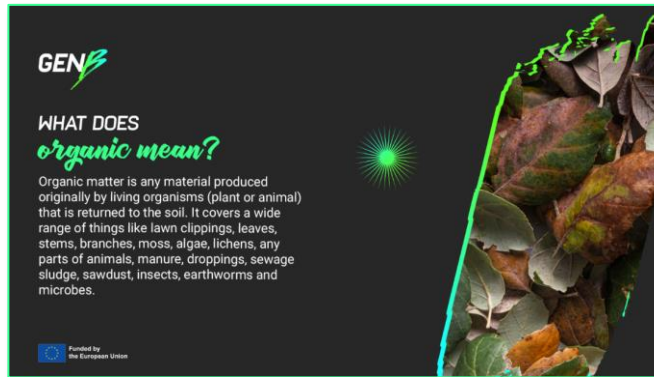


- Print to play: profesional printers

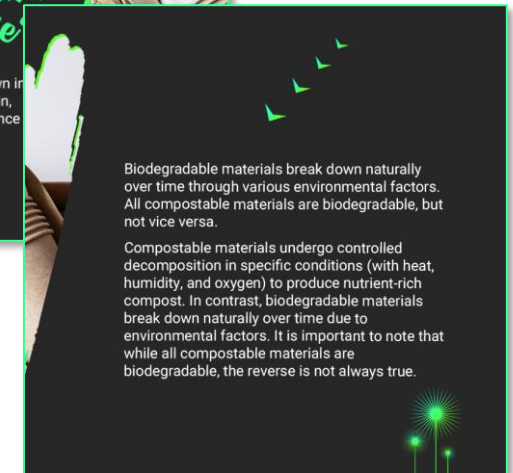


- Social Media

Educational cards

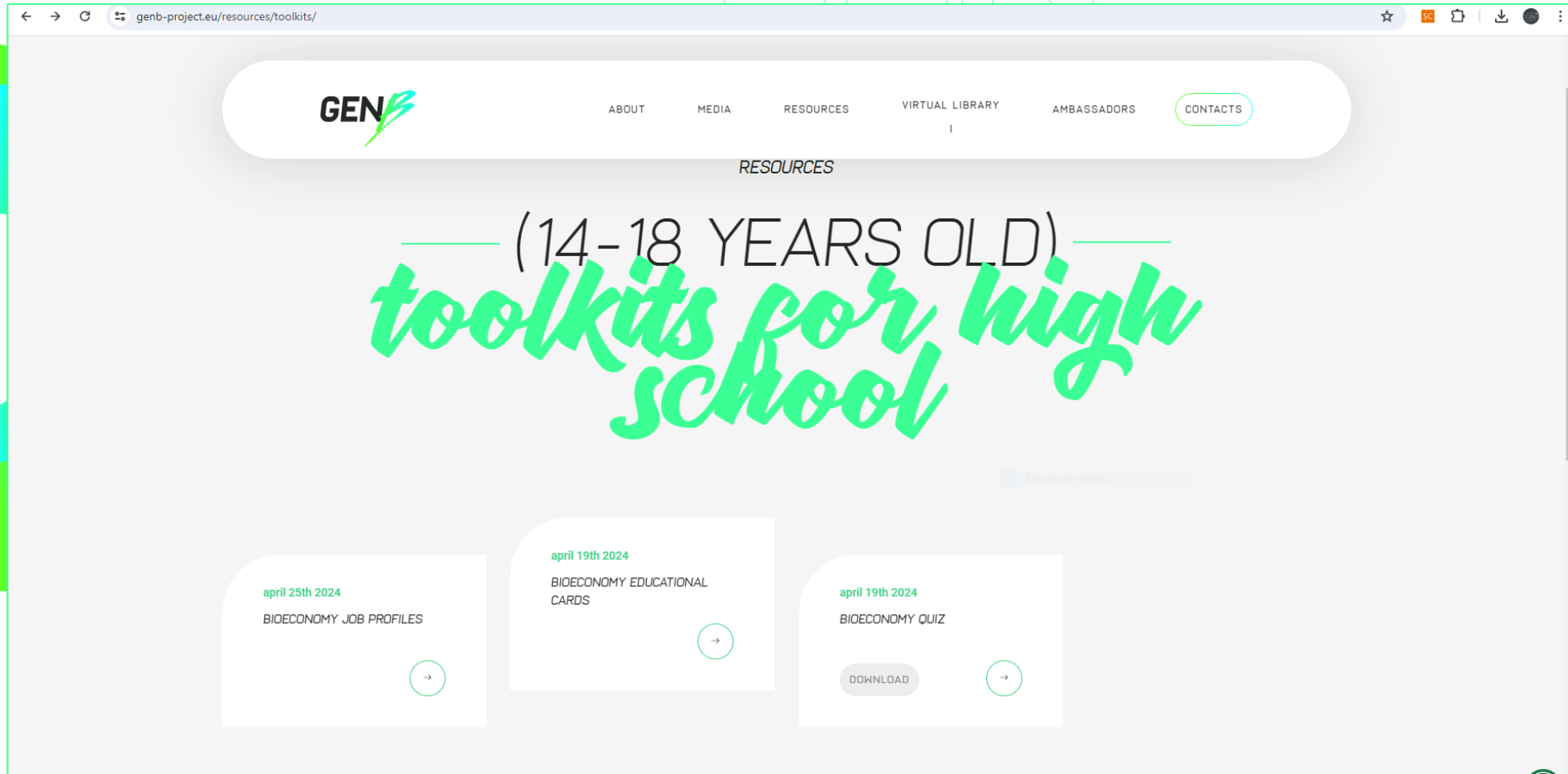


- Web



- Social Media

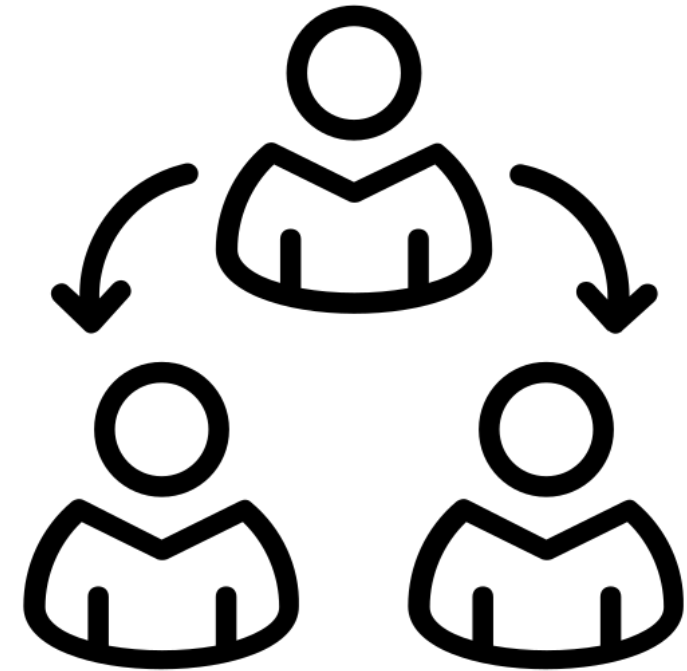
Module 3. Quizzes and educational cards – Where and in what formats can you find these materials?



GenB toolkits on GenB website

Multiplier!

- YOU are an agent of change and information transmission in your community or network of influence.
- YOU inspire and empower others to become advocates and agents of change.



We count on you to...

- Effectively sharing the concepts, principles and benefits of the bioeconomy
- **How?** In informal talks, organising educational events, facilitating workshops or seminars, promoting initiatives in institutions, etc. Be creative!
- **With whom?** Friends, students, family, decision-makers, entrepreneurs, your dog... anyone!





Knowledge is power. Information is liberating. Education is the premise of progress, in every society, in every family.”

Kofi Annan, Former Secretary General of the United Nations and Nobel Peace

Module 3. Quizzes and educational cards – Hungry for knowledge? Stay tuned!



library.genb-project.eu

VIRTUAL library

ARE YOU A

[kid](#)
6-10 years old

student, teacher
policy maker

Welcome to GenB Virtual Library

Whether you are a student, a teacher or a policy maker, you will find here plenty of materials that will help you to know more about the bioeconomy.

[GenB Library](http://www.genb-project.eu)





Thank you!

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Capacity Building webinars

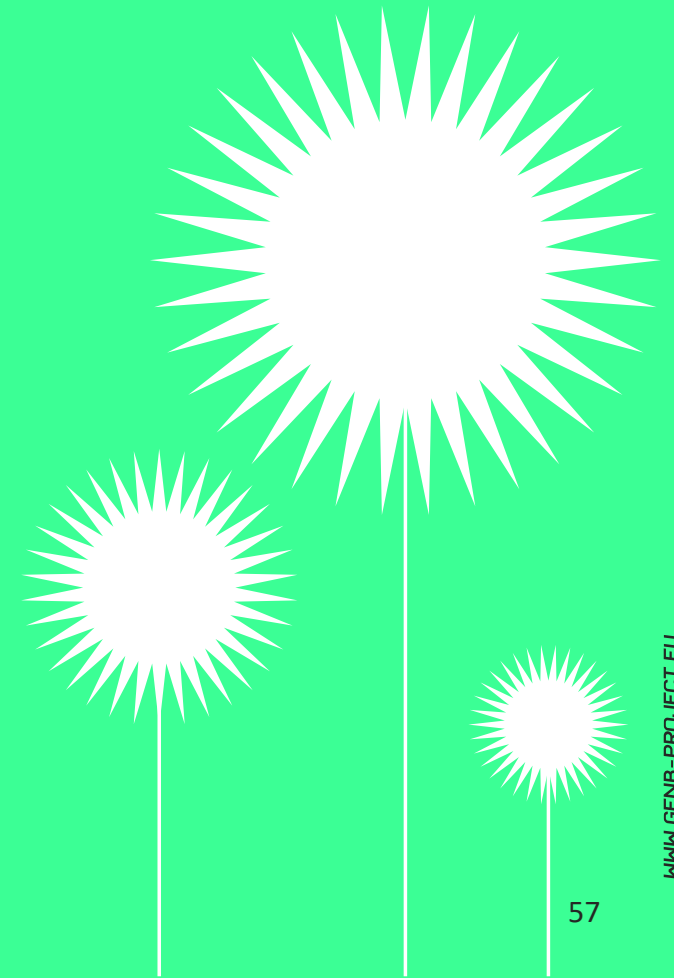
Basic Level 2

Module 4: Games and gamified solutions

FVA – New Media Research

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1. Role play game in bioeconomy Jobs
2. Board Game “Super-bio”
3. Escape Game “ESCAPE4FUTURE”
4. Additional games available in GenB library



Games about bioeconomy developed in schools by GenB



Role-play game on bioeconomy jobs: “Bioheroes: let’s save the planet!” for pre- and early-school students (4-8 y.o.) to acquire knowledge about the bioeconomy professions and learn about their roles and responsibilities.

Board Game “Super-bio” for Elementary education students (8-13 y.o.) to learn about circular bio-economy and bio-based production in different environments through quizzes, actions, interactions.

Escape game “ESCAPE4FUTURE - Chemistry meets Circular Bioeconomy” for high school students (13-18 y.o.), enigmas that address green chemistry and bioeconomy issues through hands-on experiments or games.

Role-play game: Bioheroes: let's save the planet!



- An immersive role-playing card game about professions in the bioeconomy. **Print to play game.**
- **Number of players:** 2-4 players (4-8 y.o.)
- **Objective:** Our world is under threat: only the bioeconomy can save it! Fortunately, there are 6 bioeconomy professions (biotechnology researcher, farmer growing bio-based materials, transporter, seller, buyer, waste manager) that can stop the destruction of the planet, if they manage to carry out all their tasks. The aim of the game is simple but crucial: be the first to help the bioeconomy professions fulfil their tasks and keep the Earth safe.
- **Process:** Players must complete the profession cards by placing three task cards on each of them.
- **Who wins?** The game ends when all the profession cards face-up on the table are completed. The player who the most completed profession cards win. In the event of a tie, the player who first completed a profession card during the game is the winner.

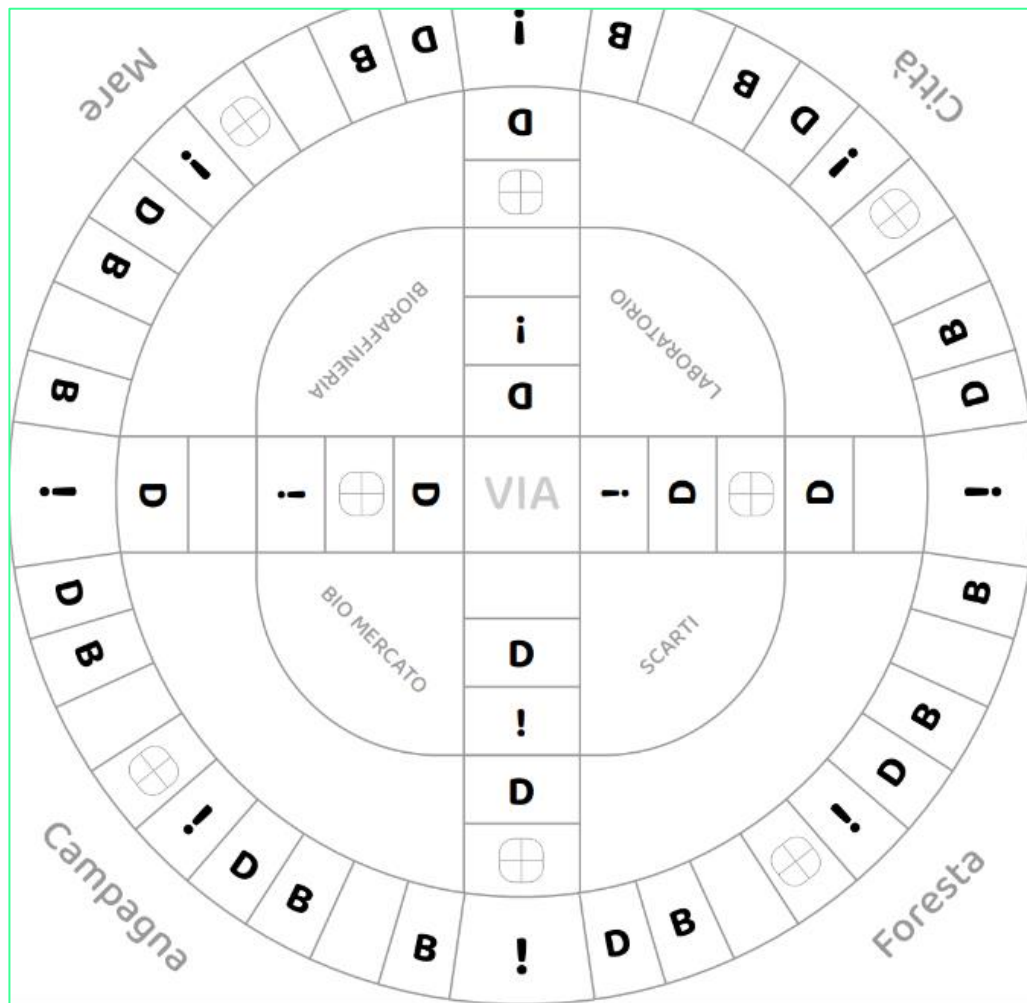


Super-bio Board Game



- The board has 4 environments related to the bioeconomy: sea, forest, city and countryside (available in Italian and soon in English). **Most of the parts are print-to-play, but some, such as the pieces, require materials which can be easily bought or collected.**
- **Number of players:** 4-6 players
- **Objective:** Participants will have to create new bio-based products by completing the recipes assigned to them. Each recipe can be considered completed when it is transformed into a bio-based product, at the biorefinery.
- **Process:** To make the bio-based product the player must obtain 1) BIOMASS, from the environment they are located on; 2) RESEARCH POINTS: correctly answering the questions written on the QUESTION cards; or acting on an UNEXPECTED card. The game is based on circular and collaborative principles.
- **Who wins?** Once 4 recipes have been completed (one for each environment) the player can close the game. Whoever becomes “Bio-hero” will win, i.e. whoever has the most sustainability points.





	RICETTE	IMPREVISTI	DOMANDE	Punti Bio
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Punti Ricerca				

22. **DOMANDA**

Che cos'è il cambiamento climatico?

a. Il cambiamento del clima globale. Il più recente che stiamo vivendo è stato causato dalle attività degli esseri umani

b.

c.

23. **DOMANDA**

Che cos'è il riscaldamento globale?

a. Il meteo di una bella giornata soleggiata

b. L'aumento della temperatura media durante tutto l'arco dell'anno

c. L'insieme di tutte le stufe accese sulla Terra

37. Che cos'è una bioraffineria?

a. Industria biologica

b. Un impianto che trasforma la biomassa in bioprodotti e bioenergia

c. Un impianto dove si produce bioenergia

6. **Tessuti**

Residui di caffè + 7 punti ricerca

2 punti bio

7. **Biogas**

Cacca di elefante + 7 punti ricerca

2 punti bio

IMPREVISTI	
1.	Sulla tua casella è passato il pulmino della bioeconomia. Vai direttamente in bioraffineria quando ti serve. Una volta usata scarta la carta
2.	Oggi sei andato al mercato del quartiere. Pesca una biomassa a scelta dagli scarti (se non ci sono conserva la carta per quando potrai effettuare la pesca).
3.	Hai dimenticato di innaffiare le tue piante. Rimani fermo 1 turno per rimediare.

Escape Game "ESCAPE4FUTURE"



The escape game "ESCAPE4FUTURE - Chemistry meets Circular Bioeconomy" integrates the inquiry-based learning and a gamified approach (available in Italian and soon in English). **Some parts are print to play, some others require materials which can be easily bought or collected.**

Number of players: around 15-20 players

Objective: players will face a very current challenge: the planet is trapped in a linear model of life and consumption, which is causing short and long-term consequences such as climate change, loss of biodiversity, resource scarcity, and an increase in waste of fossil and non-renewable origin, such as plastic. The objective is to find the way out towards a more sustainable and circular lifestyle.

Process: the players need to solve six interconnected enigmas that address green chemistry and bioeconomy issues through hands-on experiments or games. The last enigma will open a box with bio-based gadgets.

SOTTOPRODOTTI DELL'INDUSTRIA AGRICOLA E ALIMENTARE
In Europa, circa 90 milioni di tonnellate di cibo e 700 milioni di tonnellate di colture vegetali e produzioni agricole vengono buttate ogni anno, diventando così un rifiuto. Le comuni pratiche per la gestione di questi rifiuti comprendono lo smaltimento in discarica, la digestione anaerobica, il compostaggio ed il trattamento delle acque reflue.
Recentemente, sono state messe a punto nuove tecnologie per produrre prodotti ad alto valore aggiunto a partire dai residui e scarti agricoli e dai reflui dei processi di trasformazione agro-alimentare.

APPLICAZIONI
Biocarburante dalla paglia di grano
Vasetti per giardinaggio
Costruire con la paglia

ESCAPE4FUTURE
2
GEN
TEMA AVANZATO
Della Chimica



Additional games available in GenB library



Mission BioHero (Allthings.bioPRO project)

Target age: 4-19 y.o. and parents

Key insights:

- **Mission:** help humans save their planet;
- The game is divided into campaigns, each revolving around a main theme related to sustainability and the bioeconomy

Format: App for smartphone

Available languages: English/Italian/Dutch/German

[LINK](#)



Additional games available in GenB library

Fields of Fuel

Target age: 14-19 y.o./Formal educators/Non-formal educators
(game setup allows the user to adjust the level of complexity to students and audiences of different levels)

Key insights:

- **Mission:** being a farmer working to sustainably grow energy crops, earn income and improve ecosystem services;
- The game dynamics demonstrates the complexity of the sustainable production of energy crops and facilitates engagement with current research and sustainability.

Format: Computer game

Available languages: English

[LINK](#)



Additional games available in GenB library

“BE-Match” and “SDG-Link” (BE-Rural project)

Target age: 11-19 y.o./Formal educators/Non-formal educators

Key insights:

- **Mission:** introduce various bio-based products, linking them to the SGDs;
- Students could play the BE-Match game first, followed by the SDG-Link game, either on the same day or on different days (15-30 minutes per game);
- Warm-up activity for introducing secondary education students to bioeconomy.

Format: Print to play

Available language: English

[LINK](#)



Producing high-end products using sugar, corn starch, and cooking oil.



These are fully biobased and biodegradable materials that can be competing standard polymers and other oil-based plastics in terms of properties and processability. It can be adjusted to the needs of each product and application. The material can withstand the temperatures of over 100 degrees Celsius and has an estimated lifespan of 1 - 50 years depending on blend composition, with stable properties while stored.



Additional games available in GenB library



Business Match (BE-Rural project)

Target age: 11-19 y.o./Formal educators/Non-formal educators

Key insights:

- **Mission:** inspire secondary education students about the innovativeness of emerging circular business models and the possibilities created by circular economy concepts, linking them to the SGDs;
- 25 cards with brief descriptions on companies which use circular business models;
- Can be played individually or in groups and it takes 15-30 minutes.

Format: Print to play

Available language: English

[LINK](#)



Spinnova (Textile fibres)

This company manufactures 100% biodegradable textile fibres using renewable biological resources, the wood pulp from sustainably managed forests. Spinnova's mechanical processes enable wood pulp to be grounded into a gel-like material called micro-fibrillated cellulose which flow through the patented machinery to be spun into fibres. This natural fibre is an ecofriendly alternative to cotton or synthetic fibres, as its production process consumes 99% less water than cotton value chain. No toxic chemical is used at any stage of manufacturing of these fibres compared to other textile fibres manufactured using conventional technology which uses a range of toxic chemicals during fibre production, bleaching, dyeing, printing and finishing of cloth or fabric. Most human-made synthetic fibres are considered a source of various negative environmental consequences, as they use limited fossil fuels and release microfibres, polluting the water bodies and ecosystems. These natural fibres do not contribute to microplastic pollution.

Raw materials: Wood pulp

Special attributes:
100% biodegradability,
0% harmful chemicals,
0% microplastic pollution,
99% less water usage
compared to cotton value chain

Additional games available in GenB library

Bioeconomy Memory Game (Transition2BIO project)

Target age: 4-13 y.o./Formal educators/Non-formal educators

Key insights:

- **Mission:** teach young pupils about the wide range of bio-based goods that may be made from the byproducts of common biological feedstocks;
- It could be used as a form of assessment activity to evaluate primary school students' understanding of concepts covered in a bioeconomy lesson.

Format: Print to play

Available languages: English, French, German, Greek, Italian, Portuguese, Slovak

GENB



Additional games available in GenB library



BIOES game (BIOWAYS, BIOVOICES projects)

Target age: Non-formal educators

Key insights:

- **Mission:** challenging the players in their knowledge of European strategies and objectives for a more sustainable circular bioeconomy.

Format: Computer game

Available languages: English

[LINK](#)



Additional games available in GenB library



BIO...What? (BIOWAYS, BioSTEP projects)

Target age: 4-8 y.o./9-13 y.o./Formal educators/Non-formal educators

Key insights:

- **Mission:** learn how to use various raw materials and feedstocks to make everyday objects and products;
- The gameplay draws inspiration from the "Mario Bros" game;
- Warm-up activity for introducing elementary school students to bioeconomy

Format: Computer game

Available languages: English, Spanish, Italian, Portuguese, Slovak, Estonian, Greek

[LINK](#)



Find out more on GenB Library!



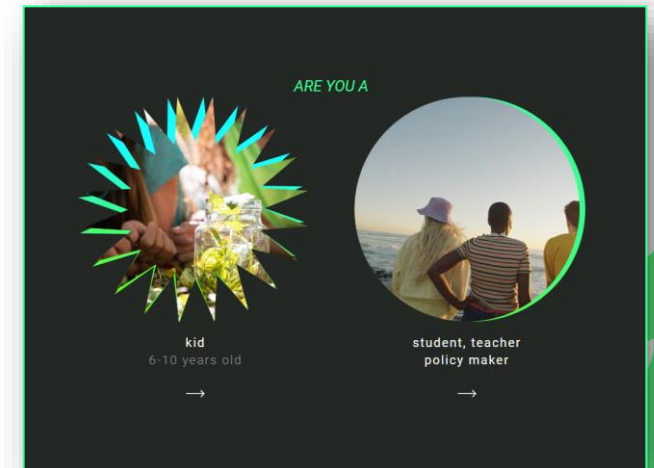
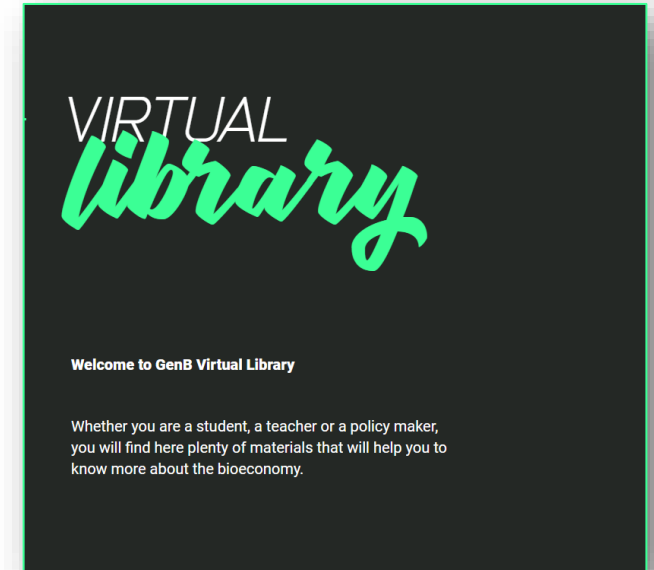
It gathers **more than 100 resources** and useful materials related to the bioeconomy, originating from projects and initiatives funded by the EU (Transition2BIO, BLOOM, BIOVOICES, Biobridges, BIOWAYS, BIObec, JRC, etc.), as well as other renowned sources (TEDx Talks, FAO, etc.).

You will find numerous materials that will help you **learn more about the bioeconomy and a more sustainable lifestyle.**

Numerous search filters are available, such as:

- Content type (factsheets, games, infographics, videos, quizzes, etc.)
- Language (24 official EU languages)
- Target group (Early childhood (4-8 years), Middle school (9-13 years), Adolescence (14-19 years), Parents, Educators, Policymakers)
- Source (European Commission, EC-funded project, EC-initiative, etc.)

<https://library.genb-project.eu/>





Thank you!

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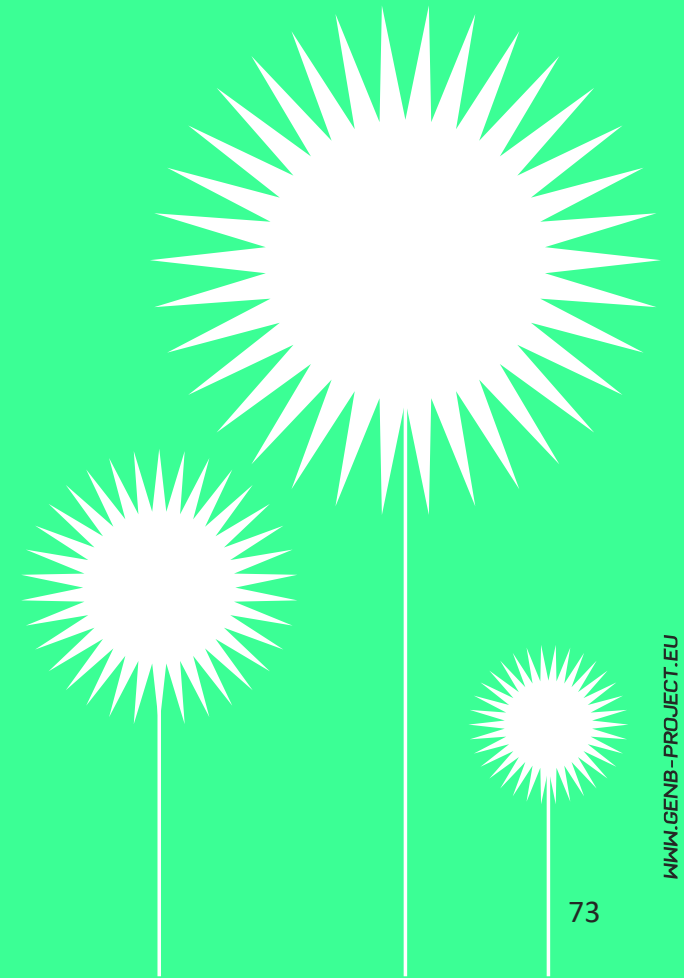


Capacity Building webinars Basic Level 2

Module 5: Educational videos

Index

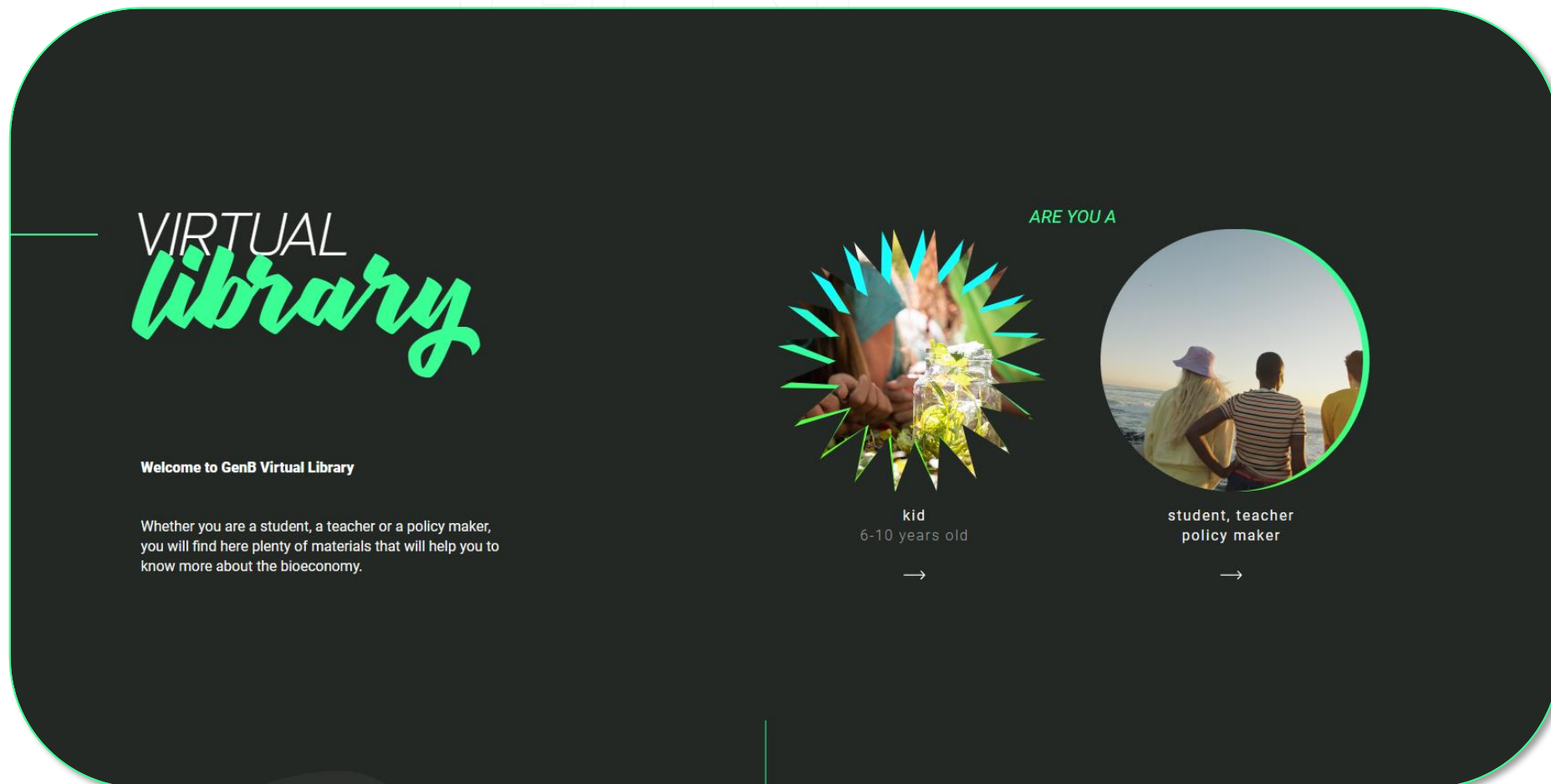
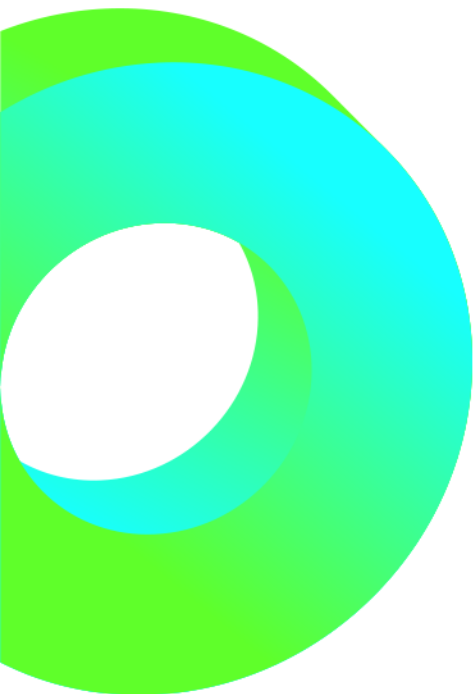
1. Using GenB Virtual Library
2. Examples of Educational Videos



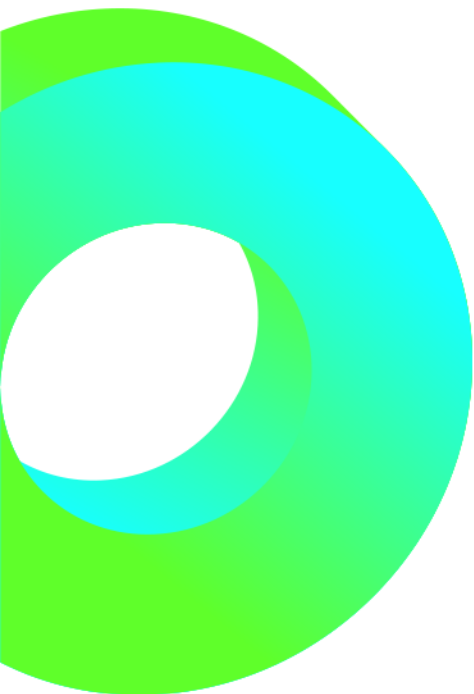


Using GenB Virtual Library

Step 1: Go to library.genb-project.eu



Step 2: Select the section “student, teacher, policy maker”



VIRTUAL
library

Welcome to GenB Virtual Library

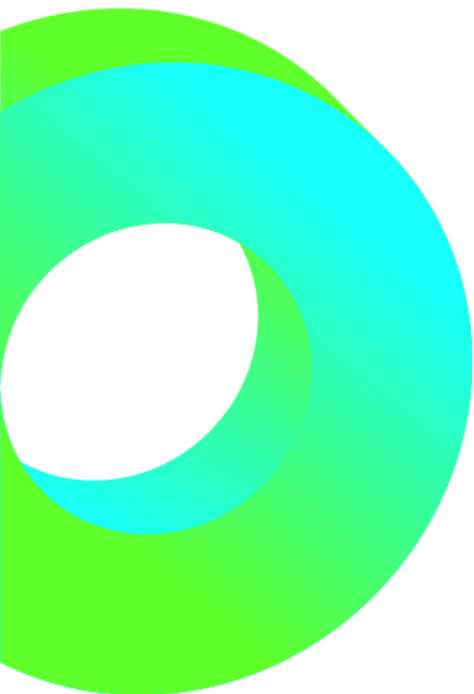
Whether you are a student, a teacher or a policy maker, you will find here plenty of materials that will help you to know more about the bioeconomy.

ARE YOU A

kid
6-10 years old

student, teacher
policy maker

Step 3: In the "Learning" section, select "videos" as content type



GENB

LEARNING GOOD PRACTICES EDUCATING YOUTH ↓

SEARCH *materials*

If you want to find a specific document, search here in GenB library.

Document name
Document name*

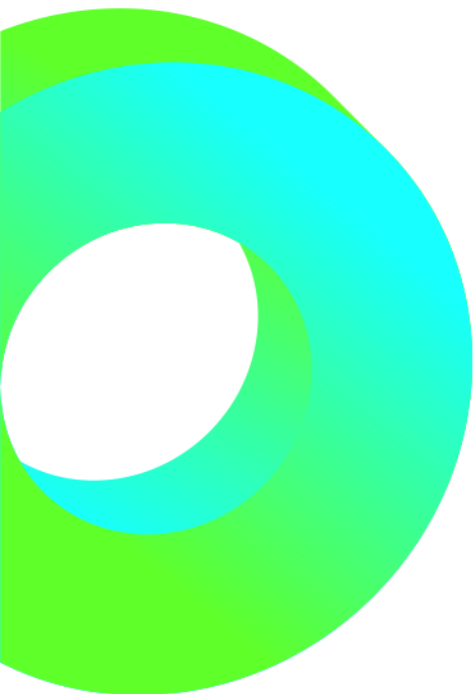
Target group
All +

Content Type
All -
Publications
Quizzes
Slide presentations
Teaching resources
Toolkits
Training materials
Videos

Language
All +

APPLY SEARCH FILTERS →

Step 4: Explore all videos!

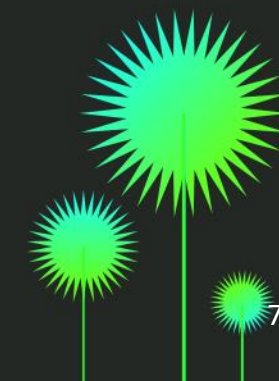


The screenshot displays the GEN website interface. At the top, there is a dark navigation bar with the GEN logo on the left and menu items: LEARNING, GOOD PRACTICES, EDUCATING, and YOUTH (with a dropdown arrow). Below the navigation bar, a grid of eight video cards is shown. Each card features a 'Video' label in a green circle at the top right, the date 'March 22nd 2024', the video title, the language 'English', a 'WATCH' button, and a circular arrow icon for navigation.

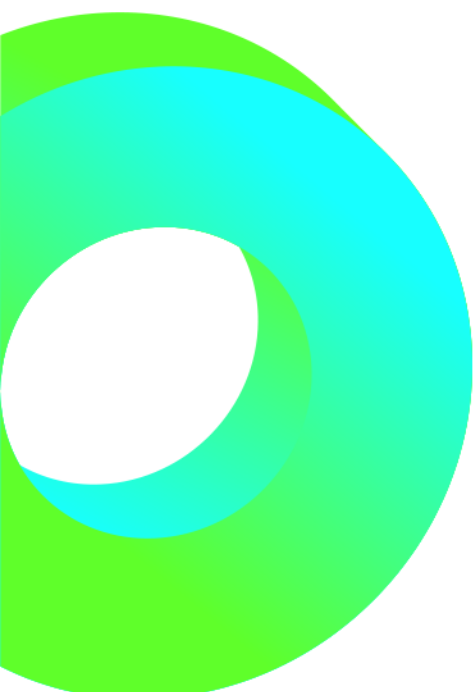
Video Title	Language
BIO-BASED SOAP	English
BIO-BASED STRAWS	English
BIO-BASED PLATES	English
BIO-BASED TOY	English
BIO-BASED HOME CLEANING PRODUCTS	English
DURABLE BIO-BASED COFFEE MUG	English
BIO-BASED T-SHIRT	English
BIO-BASED LIPSTICK	English



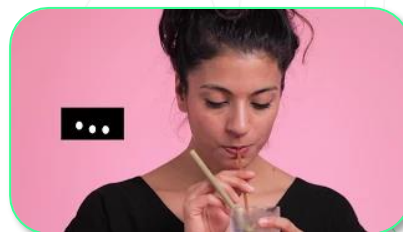
Examples of Educational Videos



You can discover plenty of bio-based products, such as...



Bio-based soap



Bio-based straws



Bio-based plates



Bio-based toy



Bio-based home cleaning products



Durable bio-based coffee mug

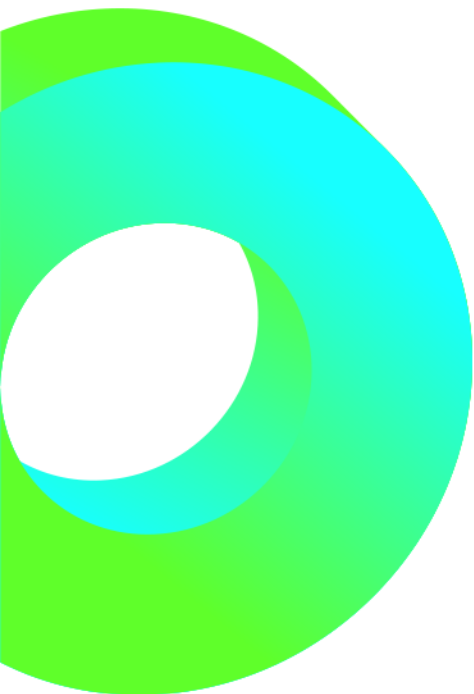


Bio-based t-shirt

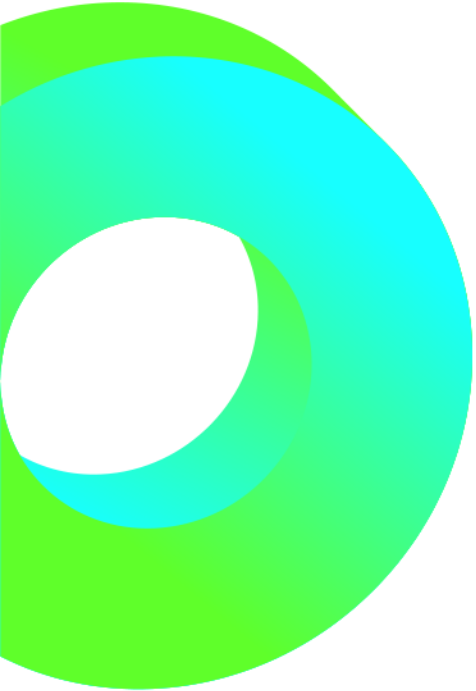


Bio-based lipstick

...or even watch an entire day lived with bio-based products!



Discover also general videos and explanation on the sustainable and circular bioeconomy!

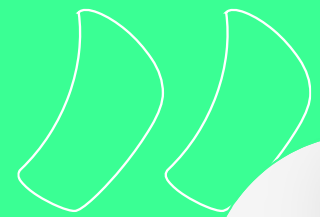


TEDx talk: The Circular Economy: A Simple Explanation



Animated video essay: Explaining the Circular Economy and How Society Can Re-think Progress

Visit GenB Virtual Library and discover more videos!



The screenshot shows the GenB Virtual Library search page. At the top, there is a dark navigation bar with the GenB logo on the left and menu items: LEARNING, GOOD PRACTICES, EDUCATING, and YOUTH (which is highlighted with a red circle). Below the navigation bar, the main heading reads "SEARCH *materials*". A sub-heading states: "If you want to find a specific document, search here in GenB library." The search interface includes two columns of filters. The left column is titled "Document name" and "Document name*" with a search input field. Below it is a "Content Type" filter with a minus sign (-) and a list of options: All, Publications, Quizzes, Slide presentations, Teaching resources, Toolkits, Training materials, and Videos. The right column is titled "Target group" and "Language" with plus signs (+) and both are currently set to "All". At the bottom right of the filter area, there is a button that says "APPLY SEARCH FILTERS" with a right-pointing arrow.

But also YOU can be part of educational videos!



GenB Ambassadors as Young Journalists



Record the video “What’s Bioeconomy?”

1. Get your mobile
2. Go to a park or somewhere with a green background
3. Record yourself in vertical format
4. Follow the script
5. Send it to your national coordinator!

...Or...



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Capacity Building webinar for GenB Ambassadors

Module 6: Student2Student formats

Laura Mentini, APRE
genb@apre.it

Student2Student formats

- Are you ready to **involve other peers** and youngsters and informally **raise awareness** and **inspire** their curiosity towards circular bioeconomy?
- Are you ready to be **actively involved** in contributing to **promote behavioral** and **attitudinal changes** to other peers, families and citizens at large?

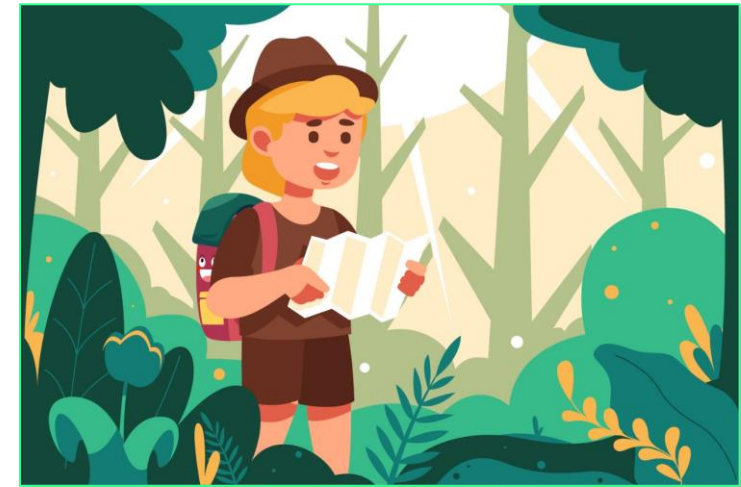


Benefits

- ✓ **Direct connection among peers.** Youngsters are keener on learning from other young people because they are perceived as inspirational examples, who are close to their age, experiences and who share the same values.
- ✓ Young people are the perfect multipliers of sustainability contents, greatly contributing to promote **behavioral changes also in their family and social circle.**
- ✓ Student2Student formats are effective also to make young people take an active role in different **educational/teaching activities**, being “in the shoes of a teacher and expert”.

Student2Student formats in GenB

1. TEDx pitches
2. Storytelling on bioeconomy
3. Hands-on and playful experiments
4. Showcase the bioeconomy and conduct quizzes during live exhibitions
5. Educational activities through seminars, cards and videos



(1) TEDx pitches

- Delivered by students to talk about the bioeconomy and bio-based products
- Attractive way to create awareness for children and adults in institutional settings
- In Italy, TEDx pitch was given during the **EU Researchers' Night and Changemaker Festival**, involving GenB Ambassadors, talking about the bioeconomy, its impacts, some examples of bio-based products. *“Grasshoppers for breakfast: the bioeconomy explained by the youngsters”* [LINK](#)
- **«School Sustainability day»**: GenB Ambassadors explain bioeconomy to the school community, external stakeholders and parents



(2) Storytelling on bioeconomy

- **Storytelling** as a tool for **raising environmental awareness** in young children (fairytails, stories, poetry, riddles)
- In the context of **EU Researchers' Night** young GenB Ambassadors read the fairytale "The apple's dream". The reading was accompanied by cartoon images projected in a big screen [LINK](#)
- In the context of the «**School sustainability day**», GenB Ambassadors performed a riddle on the bioeconomy through a rhymed rap song.



(2) Storytelling on bioeconomy

A short lesson on Bioeconomy

- Short audiovisual presentation
- Learning about basic bioeconomy concepts through the eyes of Rita, an environmentally sensitive 1st grader
- Fossil fuels, bio-based products and bioeconomy approached in a simplified way
- Suitable for small children (5+ y.o.)



(3) Hands-on and playful experiments

- Practical experiments to teach and engage the youngest on the bioeconomy in a creative and fun way
- Manipulating, observing and exploring science content through concrete materials
- Easy experiments are explained and performed under the guidance of an expert, who might be a youngster
- Can be adapted in very different contexts (schools, home, large-scale events, non-formal education settings)

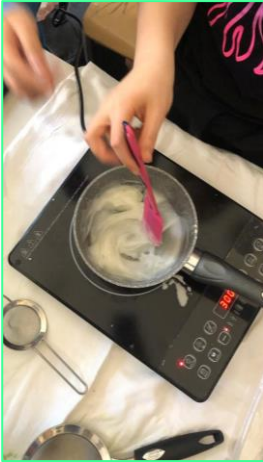


Bioplastics, natural colours and more

Young people learn that **organic waste** can be used as a sustainable alternative source to produce **new biomaterials**

- In school projects and large-scale events children were engaged in creating:
 - **Bio-based plastics** from oranges peel, milk, eggshells, corn starch
 - Natural **watercolours** from fruits, vegetables and spices
 - **Biogas** from yeast, sugar and water
 - **Biodegradable pots** from eggshells, corn starch and vinegar
 - **Coffee scrub**
 - **Seed balls** from flower, seeds and compost
 - *And many more... !*





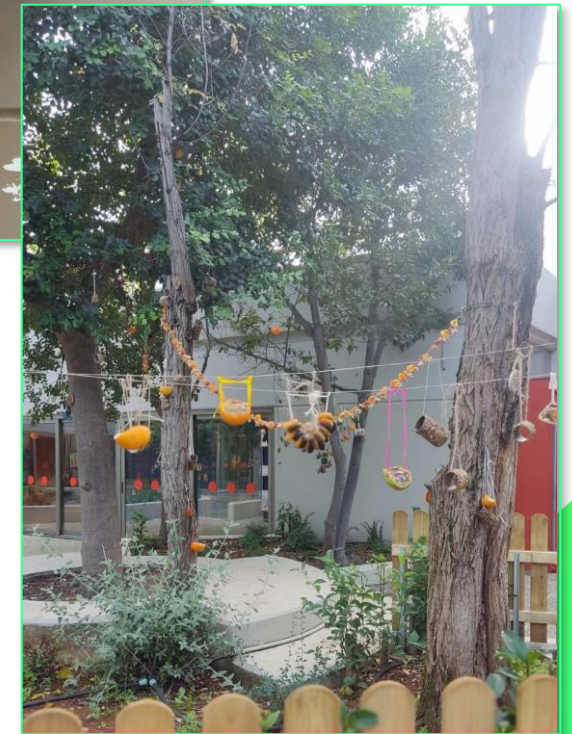
Biogas from yeast and biobased decoration

- Introducing children to the concepts of microorganisms as renewable energy sources in a fun and exciting way using yeast, sugar, water and a balloon
- Bio-based Christmas ornaments from old notebooks and wooden beads: Christmas angels and other decoration



Tree treats from food leftovers

- Engage small children through creative activities, bringing them closer to nature
- Implementing the bioeconomy principles of re-using materials and reducing waste
- Creating treats from cereal bars, leftover food and overripe fruits
- Hanging them on trees for forest birds and animals to feed on



Where to find the games and experiments

- Ten experiments using simple materials
<https://www.transition2bio.eu/games/>
- Brochures with hands-on experiments: <https://drive.loba.com:7001/sharing/aE9h3duMI>
- Can be run with minimal equipment
- The cards provide all the information for replicating experiments at home and at school
- **Additional games and experiments** are available in GenB Toolkits and [GenB Library](#) (stay tuned!)



Ice-breaking activities for the youngest

- Book «Let's discover the bioeconomy»
- Memory game



Available in different EU languages

<https://bb4k.fvaweb.eu/>

(4) Showcase the bioeconomy and conduct quizzes during live exhibitions

- During live exhibitions showcase the "**bioeconomy village**": a sample of bio-based products, explaining the origin of different bio-based products and application in everyday life
- Attract younger audience and facilitate emergence of questions through informal exchanges
- Conduct sessions of the quiz "what's bioeconomy", engaging students, teachers and families



(5) Educational activities through seminars, cards and videos

After being equipped with the necessary knowledge, take a role and share your knowledge with peers and adults:

- Deliver a lesson and share your knowledge on the bioeconomy concepts, applications and jobs to younger kids in schools or informal settings (PPT)
- Explain what the bioeconomy is through videos and educational cards - the cards provide insights into terminology and controversial topics (composting, biofuel, biodegradability, etc.).
- Replicate some experiments in a live demonstration or video tutorial to be shared with peers and families



Some guidelines and good practices

- ✓ The involvement and the type of activity should be **tailored to the age** of who is delivering the activity **and the target audience**
- ✓ GenB Ambassadors will be **supported by the GenB Team** in getting ready for the activities, providing knowledge, support and tools
- ✓ “Student2Student” format involves unexperienced participants (young students, on stage for the first time) and tackles complex concepts, that should be **communicated** in an appropriate way and might elicit controversial questions
- ✓ It is important to ensure that you feel **confident** and especially, that you enjoy these experiences
- ✓ A **toolkit for GenB Ambassadors** will be made available in strict collaboration with GenB team to better support you



Thank you!

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