

# GenB Educational Model

Empowering educators to inspire the next generation of bioeconomy leaders

*An educational, science-based, interactive, and adaptable model to equip young minds with the skills, knowledge, and mindset needed for a sustainable bioeconomy."*

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Funded by  
the European Union

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## What is Bioeconomy?

A sustainable **economy based on nature and innovation**. It uses **renewable biological resources**—such as plants, microorganisms, and organic waste—to create **sustainable alternatives** to fossil-based products and processes.

- Includes **sectors such as agriculture, biotechnology, bio-based materials, and green energy**.
- Drives **economic growth, green jobs, and innovation for a low-carbon future**.

### Bioeconomy in action

Bio-based  
textiles

Biodegradable  
packaging

Sustainable  
food  
production

Biofuels

## Why bioeconomy education?

A 2020 global survey revealed that **92% of students think sustainable development should be universally taught and promoted**. Additionally, **85% expressed desire to learn more about sustainable development**, and **73% believed it should be actively incorporated into all courses**.

[\(SOS- Students for Sustainability\)](#)

A 2022 global survey indicated that **70% of students desire more experiential learning focused on sustainability**. Additionally, **65% expressed that they want more case studies on the topic**

[\(Yale Center for Business and Environment\)](#)

🌱 The bioeconomy is already **valued at €2.35 trillion in the EU**, and growing 🌱 Bioeconomy already **employs over 16 million people** across Europe 🌱 By 2050, **green skills will be essential across industries** 🌱 Educators play a **key role** in shaping youth mindsets.

### Key Benefits

**Prepares students for real-world sustainability challenges**, creating **new professional opportunities** in the **green economy**.

Aligns with **EU strategies** (Green Deal, Bioeconomy Strategy, SDGs) to accelerate the shift to a **low-carbon, circular economy**.

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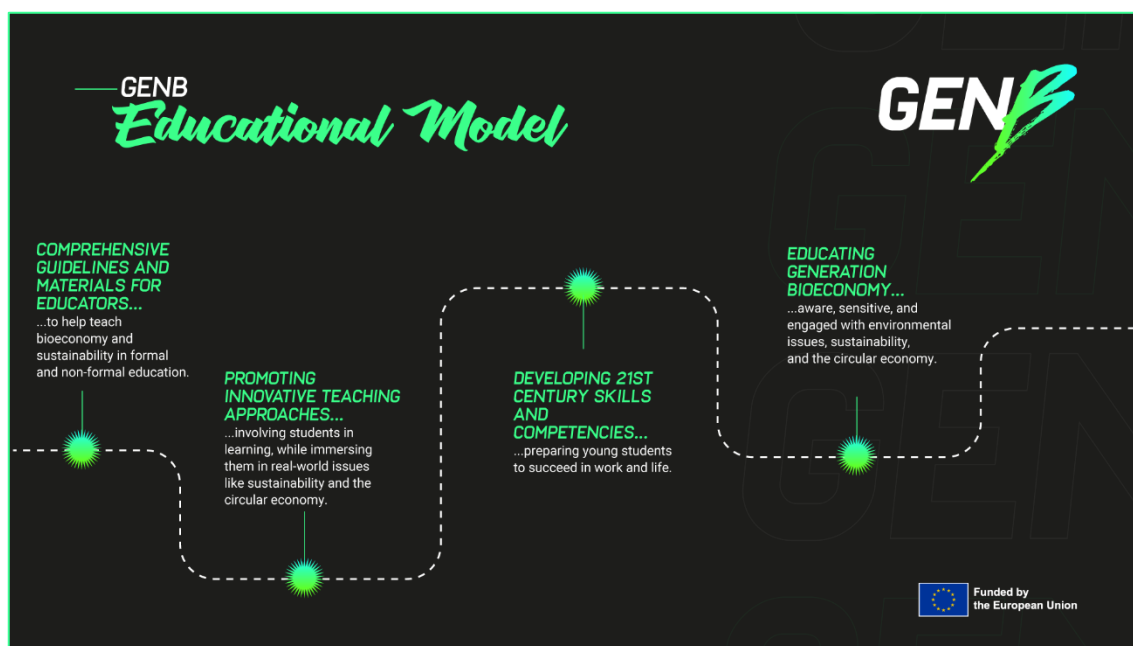
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## The GenB Educational Model: designed for educators, built for impact

To support this vision, the project has developed the **GenB Education Model**, an innovative and adaptable framework to guide the integration of bioeconomy education into diverse learning environments.

This framework for bioeconomy education is rooted in experiential, project-based, and interdisciplinary teaching methods, and aligns with GreenComp (EU Sustainability Competences) & 21st Century Learning.

It integrates adaptability for different age groups and features **✓4-8 yo** - Storytelling and play-based learning **✓9-13 yo** - Role-playing and science experiments **✓14-18 yo** - Career exploration and real-world problem-solving.

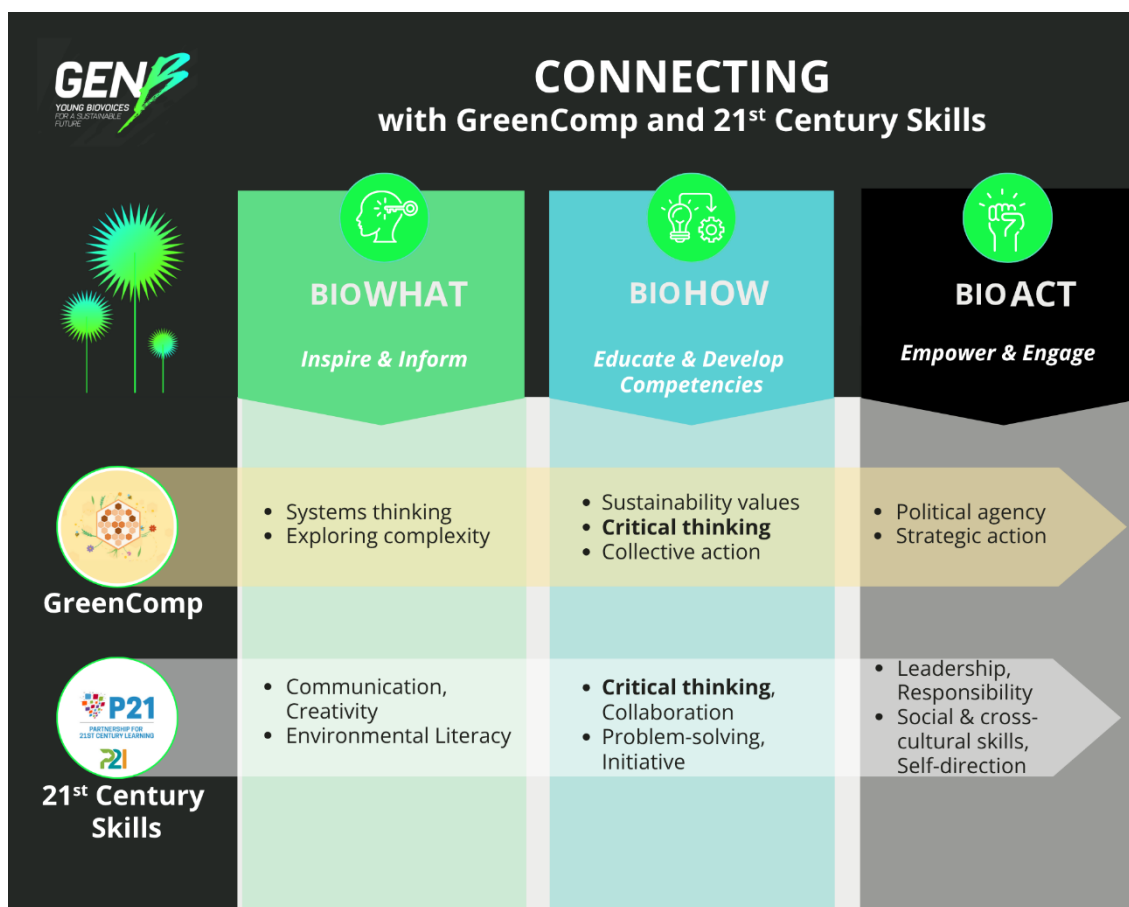


The model is built on the BIOWHAT, BIOHOW, BIOACT framework, a three-level structure that allows educators to gradually introduce bioeconomy topics to youngsters, originally developed within the Transition2Bio project" (I revised this a bit)

- **BIOWHAT** – Raising awareness of bioeconomy principles.
- **BIOHOW** – Developing competencies and practical skills.
- **BIOACT** – Encouraging active participation and advocacy.

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*Included resources and tools for educators*



**MOOC on bioeconomy education**

→ self-paced professional development



**Lesson plans and toolkits**

→ structured activities age-specific, case studies and best practices



**Interactive learning**

→ hands-on learning and real-world bioeconomy applications



**Digital and gamified resources**

→ games and participatory tools.



**Capacity building for educators and GenB Ambassadors**

→ Learn and engage.

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## Call to Action

*Bioeconomy is not just a subject - it's the future already here. Equip students with the knowledge and skills to build a circular, sustainable world.*

**Start teaching  
today**

**Download free  
resources**

**Enroll in the  
MOOC**

*Join a growing network of educators transforming sustainability learning! Explore the GenB learning community*

**Start inspiring with  
bioeconomy today!**

**Access the GenB  
toolkit and MOOC**

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