



Transition2Bio Toolkit for Teachers

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Toolkit 2

Bioeconomy Kit for Teachers

Are you ready to teach your students about the economy of the future? With so many educational materials about the bioeconomy scattered across the internet, it can be difficult to know where to start. With this kit, we gathered in one place the most essential resources, which can help you teach and raise awareness about the bioeconomy from primary to university level.

Link to access the toolkit:
<https://www.transition2bio.eu/toolkits/>

Table of content kit for teachers

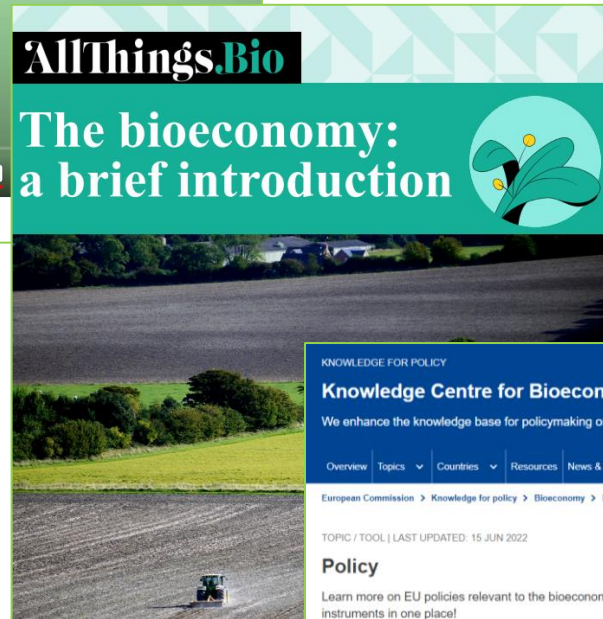
1. What is a sustainable bioeconomy?
2. Where can I find primary school level resources on the bioeconomy?
3. Where can I find more secondary school level resources on the bioeconomy?
4. What upcoming EU projects dealing with bioeconomy education should I look out for?

What is a sustainable bioeconomy?



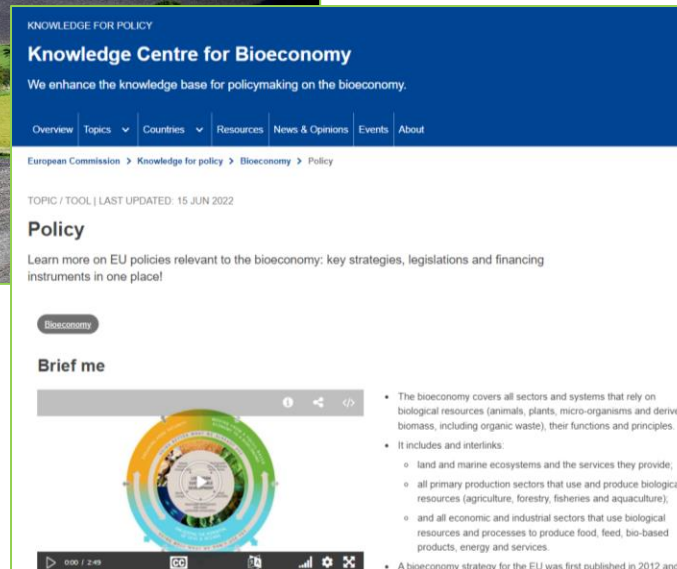
<https://www.youtube.com/watch?v=2xvXkOMRTs4>

Get started with this video from the European Commission “The bioeconomy starts here!” with captions in all EU languages!



https://www.allthings.bio/wp-content/uploads/2021/04/Bioeconomy_EN_2104.pdf

Learn about the basics of the bioeconomy through this engaging overview.



https://knowledge4policy.ec.europa.eu/bioeconomy/topic/policy_en

Let's get familiar with the definition of the bioeconomy according to the European Commission.

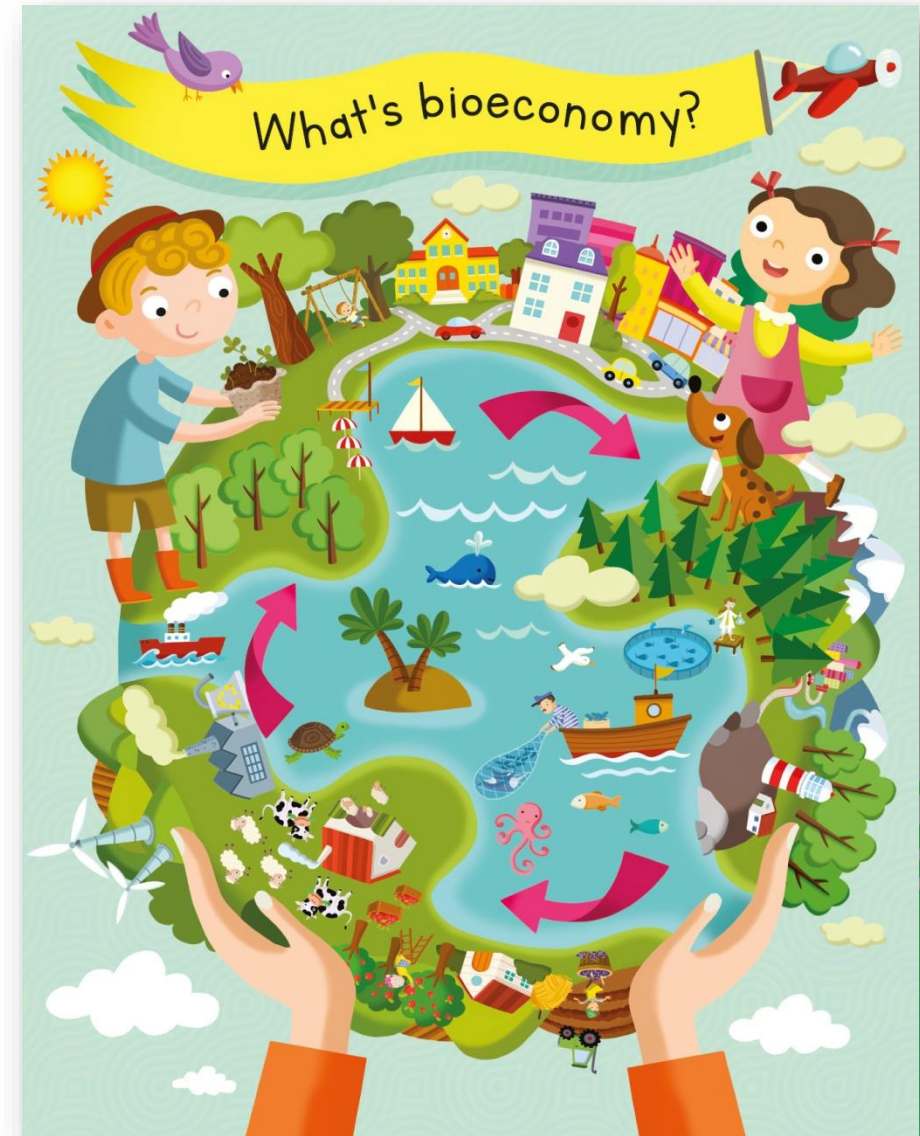
Where can I find primary school level resources on the bioeconomy?

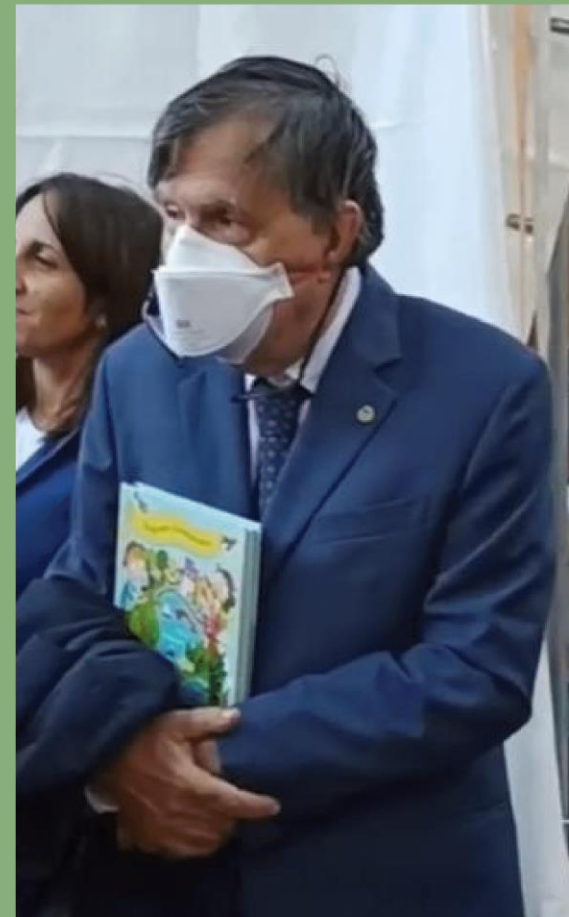
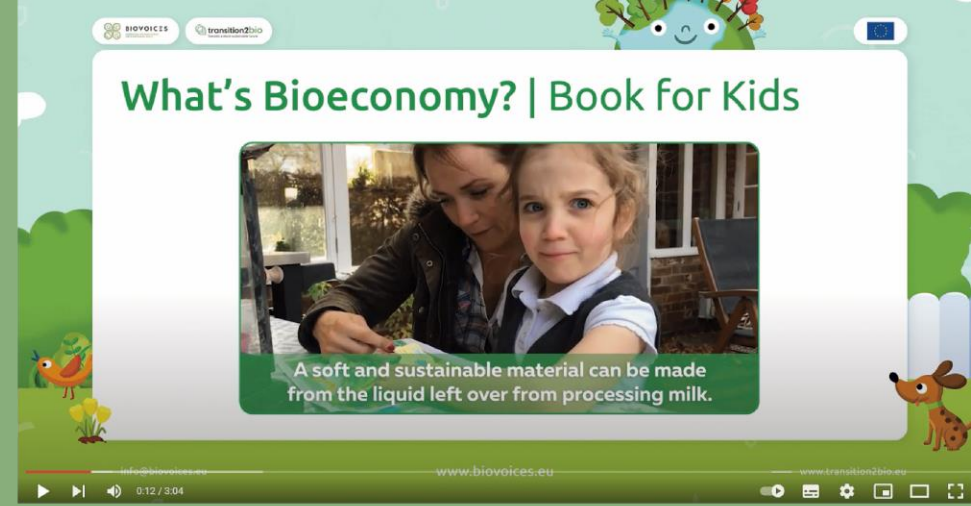
- [BLOOM School Boxes](#) provide a valuable collection of bioeconomy related teaching resources for all ages which educators can use to introduce the concept of bioeconomy in their classrooms.
- Introduce your students to bio-based materials with this [AllThings.Bio booklet](#).
- Bio-based economy [educational cards](#) have been created by **BIOVOICES** as a ready to use tool for informing the public.
- This “[BLOOM bioeconomy suitcase](#)” is packed with biobased products to help visualize the magic of the bioeconomy for kids.
- Follow Ben and Bea, two siblings living in the World of Bioeconomy, in this [BIOVOICES book for kids](#).
- Print out the [Transition2bio Bioeconomy memory game](#) to play with your students or a set of **experiment leaflets**, which students can experiment with at home or at school with simple ingredients such as coffee waste, orange peels to make fun bio-based creations.
- In these picture books, [Farmer Hubert](#) invites our young guests to join his adventures in the bioeconomy



FIRST OF ITS KIND BOOK FOR KIDS ON THE BIOECONOMY (FROM 5 TO 9 YEARS OLD)

- **8 pages** (5 Everyday's situations for kids, the bioeconomy world, a glossary and a let's play section)
- **80 flaps** to lift
- **12 languages** (English, Italian, Portuguese, Spanish, Greek, Dutch, German, Romanian, Slovak, Estonian, Hungarian, French)
- **33 experts** from EC, industries and academia in the scientific Committee
- **1 professional illustrator:** Alistar Illustration
- **25.000** printed copies distributed (and kids reached!)
- **1 Online version** of the book for kids
- **1 launching video** of the book for kids **by kids**
- **3 Important testimonials:** **Roberta Metsola**, President of the European Parliament, **Giorgio Parisi**, Nobel Prize in Physics 2021, **Pope Francis**





INFO-EDUCATIONAL GAMES

experiment
leaflets

English  German  Greek  Italian  Portuguese  Slovak 



The image shows three experiment leaflets from transition2bio. The first leaflet is titled 'Learn how to make: coffee scrub' and lists ingredients: 2 tbsp. of used Coffee Grounds and 1 tbsp. of Oil (Jojoba, Olive, Coconut). The second leaflet is titled 'Learn how to make: natural color fun' and lists ingredients: Half of a Purple Cabbage, Pin of Cold Water, 1 tsp. of Vinegar, and 1 tsp. of Baking Soda. The third leaflet is also titled 'Learn how to make: natural color fun' and lists ingredients: 1 tsp. of Vinegar and 1 tsp. of Baking Soda. Each leaflet includes instructions and a 'What did you learn?' section.

English  French  German  Greek  Italian  Portuguese  Slovak 

memory
game



The image shows three memory game cards from transition2bio. The first card is titled 'memory game' and features a cartoon character. The second card is titled 'apple' and features an illustration of an apple. The third card is titled 'things you can do with apple scraps:' and lists: Leather, Paper, and Biodegradable bags. Each card includes the transition2bio logo and the website address www.transition2bio.eu.

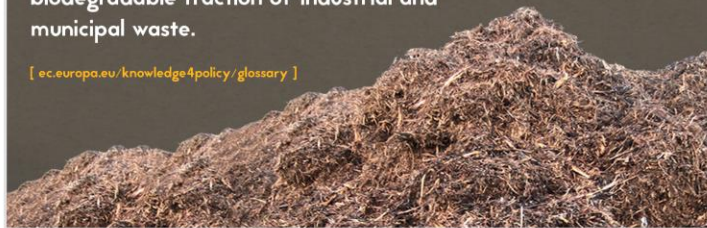
INFO-EDUCATION

What is **BIOMASS** ?

ONLINE EDUCATION

Biomass is the biodegradable fraction of products, waste and residues from biological origin from agriculture (including vegetal and animal substances), forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal waste.

[ec.europa.eu/knowledge4policy/glossary]



info@biovoices.eu

BIOVOICES

www.biovoices.eu

What are **BIO-BASED PRODUCTS** ?

ONLINE EDUCATION



The term bio-based product refers to products wholly or partly derived from biomass, such as plants, trees or animals (the biomass can have undergone physical, chemical or biological treatment).

[www.cen.eu/work/areas/chemical/biobased]

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What is **BIOECONOMY** ?

ONLINE EDUCATION



The bioeconomy is the production of renewable biological resources and the conversion of these resources and waste streams into value added products, such as food, feed, bio-based products and bioenergy.

[EU Commission | "Innovating for Sustainable Growth - A Bioeconomy for Europe" (2012)]

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BIOVOICES

www.biovoices.eu

TRAINING FOR TEACHERS: webinars

La bioeconomia in Europa

La **Bioeconomia** in Europa

- Impiega il **9% della forza lavoro** (17.5 milioni di lavoratori nel

La Bioeconomia e i suoi settori di applicazione

Energia

SPEAKER: **Maria Teresa Borzacchiello**
Joint Research Knowledge Centre for Bioeconomy
European Commission

EU BIOECONOMY
European Commission's Knowledge Centre for Bioeconomy

	EMPLOYMENT (MILLION JOBS)	VALUE ADDED (BILLION EUR)	VALUE ADDED SHARE (%)
AGRICULTURE	9.3	189	31%
FORESTRY	0.5	25	4%
FISHING AND AQUACULTURE	0.2	7	1%
FOOD, BEVERAGES AND OTHER AGRO-MANUFACTURING	4.4	215	55%
BIO-BASED TEXTILES	0.7	21	3%
WOOD PRODUCTS AND FURNITURE	1.4	47	8%
PAPER	0.6	42	7%
BIO-BASED CHEMICALS, PLASTICS			
LIQUID BIOFUELS			
BIOELECTRICITY			

DATA 2017 EU-27

Bioeconomia: perché

Un bioeconomia **sostenibile**

- sostenere un'ampia gamma di servizi pubblici (biodiversità, servizi ecosistemici...)
- ridurre l'impronta ambientale della produzione primaria e della trasformazione nel suo complesso
- aumentare la **competitività** dell'Europa
- rafforzare l'**autosufficienza** dell'Europa
- fornire **posti di lavoro** e opportunità di business.

Scopri come creare: Scrub al caffè

Esperimenti a casa o a scuola

Per questo esperimento avrai bisogno di:

- 2 cucchiaini di fondi di caffè
- 1 cucchiaino di olio (jojoba, oliva, cocco)

Procedimento:

- Miscela 2 cucchiaini di fondi di caffè con 1 cucchiaino di olio a scelta.
- Otterrai uno scrub delicato per il viso e per il corpo.

Cosa hai imparato? Ci sono molti modi di usare i prodotti di scarto che si possono trovare nella tua cucina. I fondi di caffè, per esempio, possono essere usati per: bioplastiche, microgranuli per cosmetici, tessuti, carta, pigmenti coloranti, fertilizzanti da giardino, ecc. Nella bioeconomia i rifiuti trovano una nuova vita!



Where can I find primary school level resources on the bioeconomy?

- The BE-Rural project reviewed [100 free online teaching resources on the bioeconomy](#). This list shows the richness of resources already available and provides teachers with a list that they might want to use in their teaching.
- Teachers can also find pre-made [PowerPoint presentations](#) with practical notes on all the key sectors of the bioeconomy as well as its connection to the SDGs and circular economy. All presentations have been translated into Bulgarian, Latvian, Macedonian, Polish and Romanian.
- Games can make students become more involved in their learning, so in addition to the lecture sides, here are some [workshops, quizzes, and games](#) from BE-Rural.
- Refer to this [BLOOM Q&A](#) about the bioeconomy.
- A [glossary table](#) with keywords relevant to bioeconomy is also a key resource.
- [A bio-based day video](#) produced by BIOBRIDGES project.



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