

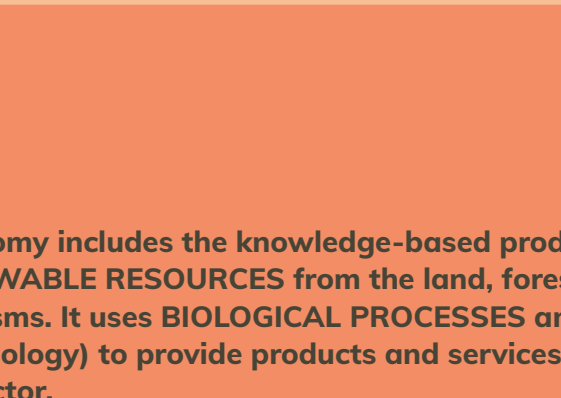


## Toolkit 1 Bioeconomy Kit for Citizens

If you want to know more about the bioeconomy, in particular, how it benefits you and the environment and steps you can take to drive the transition to a more sustainable consumption and lifestyle, then this kit is for you. It centralizes key resources and practical and inspiring examples and stories about the bioeconomy in one place.

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## 1

### What is a sustainable bioeconomy?



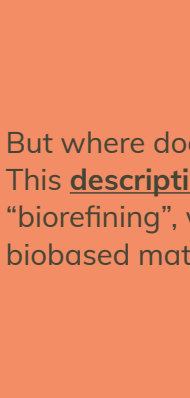
#### Did you know?

Nature serves as the greatest source of inspiration in the bioeconomy?

**The bioeconomy includes the knowledge-based production and use of RENEWABLE RESOURCES from the land, forests, sea and microorganisms. It uses BIOLOGICAL PROCESSES and PRINCIPLES (e.g. biotechnology) to provide products and services across all economic sectors.**



Get started with this [video](#) from the European Commission "The bioeconomy starts here!" With captions in all EU languages!



Learn about the basics of the bioeconomy through this engaging [overview](#).

#### Did you know?

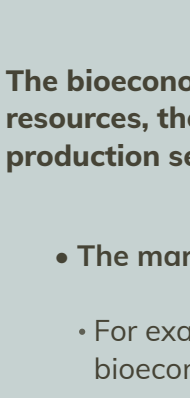
The bioeconomy helps us address many global challenges – like climate change, land and ecosystem degradation, and a growing population.

**A SUSTAINABLE bioeconomy strives to be CIRCULAR by preserving resources for future generations and promoting the use of residues from agriculture, forests, fishing and aquaculture, organic waste and by-products from industry (such as food).**



Let's get familiar with a definition of the bioeconomy. According to the **European Commission**, "the bioeconomy covers all sectors and systems that rely on biological resources (animals, plants, micro-organisms and derived biomass, including organic waste), their functions and principles."

**In addition to renewable material and energy resources, the bioeconomy provides critical biological KNOW-HOW on natural cycles, its system and processes. With the help of the life sciences, the bioeconomy explores the characteristics, abilities and functions of natural organisms in order to develop NEW products and solutions or BIO-INNOVATIONS.**



Hear from scientists and researchers about the latest trends in the bioeconomy in these short [video clips](#).

#### Did you know?

Waste is a valuable resource! The bioeconomy helps us use organic waste and recycle biological resources.

But where does all this biomass come from and how is it used? This [description](#) of a biobased society includes helpful depictions of "biorefining", which is the utilization of biomass resources to produce biobased materials, chemicals and energy.



## 2

### What are the different bioeconomy sectors?



#### Did you know?

The bioeconomy applies to a variety of sectors and services.

**The bioeconomy covers all sectors and systems that rely on biological resources, their functions and principles. This includes the primary production sectors (marine, agriculture, forestry):**

#### • The marine sector (fisheries & aquaculture)

• For example, Algal Biomass has several uses in the bioeconomy, including:

- in wastewater treatment
- as a functional food ingredient
- in pharmaceuticals and cosmetics
- watch this [video](#) on algae biomass production to find out more.

• Fish is a great resource not only for food, but also as a feedstock. Fish waste can be used, among others:

- as clothing and accessories

#### • The agricultural sector

• Agricultural residues can be used in a variety of ways from, among others:

- Cereals
- Olives
- Potatoes
- Tomatoes
- Sugar beets
- In this [video](#) on agricultural biomass production, you will better understand the great value of this resource in Europe.
- Take this [quiz](#) to find out what new products can be made from food waste!

#### • The forestry sector

• In addition to agricultural waste, lignocellulosic biomass, can also come from forests and forestry discards to be made into:

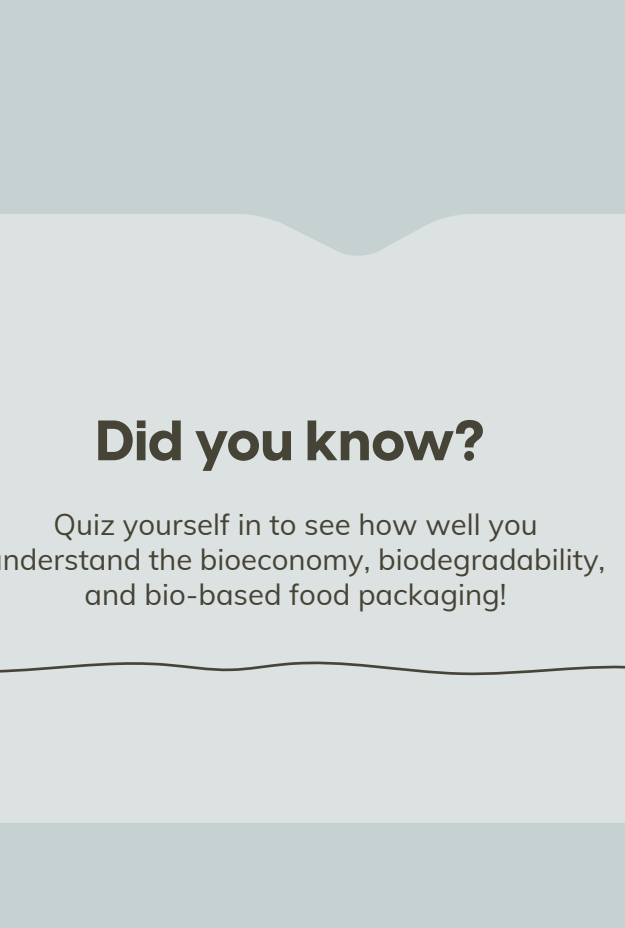
- Food preservatives
- Textile fibre
- Don't miss this [video](#) on forestry biomass production.

• Several industrial sectors can be included in the bioeconomy that produce food, feed, bio-based products, bioenergy, biofuels, as well as bio-based services.

Check these application area [factsheets](#) to learn more about the diversity of the bioeconomy and the interconnection among sectors.

## 3

### How is the bioeconomy part of our everyday lives?



#### Did you know?

Instead of making things from fossil fuels, can we do it with the power of biology?

**Bio-based products are wholly or partly derived from biomass. By shifting to bio-based products we can reduce our dependence on fossil fuels, relieve pressure on ecosystems, and support green jobs and innovation.**

- Join Peter and Sarah in this [video](#) and find out some fascinating facts about the bioeconomy.
- This [video](#) presents the role of life and biological sciences and technologies for the bio-based sectors and the 50 most significant bio-based innovations for the next 5-20 years.

#### Did you know?

A number of innovative bio-based products are already on the market?

- Follow this young lady during her bio-based day, from waking up to going to bed, discovering how bio-based products can substitute fossil-based ones in everyday life in this [video](#).
- Or see how bioeconomy products have rapidly developed to become bestsellers in this interactive [virtual exhibition](#).



and in this [virtual bio-based pop-up store](#).



Here is a [list of biobased products](#) on the market.

#### Did you know?

The bioeconomy can beautifully work with nature rather than against it!

• Get inspired with the [BioArt Gallery](#) which presents stunning pictures of promising feedstock and their related bioeconomy applications in everyday life. Explore these examples of bio-based products and applications currently available on the market.



## 4

### How can I choose between different bio-based products?



#### Did you know?

Not all bio-based products are biodegradable.

**There is often confusion about the nature, sustainability and environmental impacts of different types of bioproducts.**

Read these [factsheets](#) for more background information on biobased products, their sustainability, and biodegradability.



Watch the [video](#) "Game changer for the bio-based economy" and don't miss their other engaging videos on bio-based products, ranging from toys and soap to lipstick.

If you are on the run, listen to this [podcast](#) on the bioeconomy.

These helpful resources will guide you through the world of

- Bio-based food packaging
- Bio-based insulation materials
- Bio-based household cleaning products
- Sustainable fashion

#### Did you know?

Quiz yourself in to see how well you understand the bioeconomy, biodegradability, and bio-based food packaging!

Quiz: Are you ready for the bioeconomy?

Quiz: Bio-based or biodegradable?

Quiz: Bio-based food packaging

## 5

### Additional resources on the bioeconomy



- A glossary table with keywords relevant to bioeconomy
- Q&A about the bioeconomy

