

## Bio-based Economy: network, innovate, communicate

01

### Bio-based products and applications.

During the first months of the BIOWAYS project, a thorough literature review of the application areas and market penetration of bio-based products was conducted, in our effort to analyse the maturity level of the bio-economy in Europe.

The review focused on the following bio-based market segments:

- Bio-based chemicals and building blocks
- Bioenergy and biofuels
- Bioplastics/ biomaterials
- Bio-based food and feed ingredients
- Biosurfactants
- Biolubricants

This was done along with an assessment of possible barriers to uptake, growth and future trends that characterise each specific sector and specific case studies. The report also includes information about bio-refineries and about basic supply chains that result in bio-based products with various market applications from forestry, agriculture and waste. Moreover, the report addresses existing legislation and policy frameworks relevant for contributing to the evolution of the bioeconomy.

The analysis was supported by the views of 41 key stakeholders in the field of bio-based production in Europe, as expressed through qualitative interviews. The report will soon be available at <http://www.bioways.eu> so stay tuned.

02

### Public perception of BBPs and the bioeconomy - Findings from BIOWAYS analysis

In May 2017, BIOWAYS ran an online survey to assess the level of public awareness on bio-based products and the perception of the bioeconomy in general. More than 450 respondents across Europe participated in the survey, sharing their opinions and perceptions about the bioeconomy and bio-based products. From the outcomes, it was clear that although consumers generally have a positive impression of bio-based products, they need access to more information about them. More specifically:

- 80% of those surveyed stated that their overall perception of bio-based products is positive and more than 60% seemed to be aware of the environmental benefits of using them over their non-bio-based equivalents.
- Most of the respondents (66.6%) clearly expressed a preference for bio-based products over their non-bio-based equivalents.
- There appeared to be some confusion amongst the public regarding the term "bio-based products", which was associated incorrectly with the term "organic products".
- The responders identified some bio-based products, but were not aware of the existence of several others and their applications.
- 31.4% of the responders believed they didn't have enough knowledge of bio-based products. Over 60%, claimed that they had never been engaged in informative actions relevant to bio-based products and the bioeconomy.
- 40% of the sample were not confident that the use of bio-based products contributes to sustainable economic growth and the creation of new jobs.

#### Positive Perceptions



Environmental awareness benefits



Preference for bio-based products



Positive perceptions about bio-based products

#### Negative Perceptions



Big confusion about some concepts



Don't have sufficient knowledge



Never been engaged in informative actions



Not confident of contribution to sustainable economic growth and creation of new jobs



Information about the benefits is not readily available



03

### "Bio... What?" Game

"Bio...What?" is a serious **game** developed by BIOWAYS in partnership with the **BioSTEP project**, which are both funded by BBI-JU under Horizon 2020.

BIOWAYS aims to increase public awareness of bio-based products and applications supporting the growth of the European bioeconomy. BioSTEP aims to promote stakeholder engagement and public awareness for a participative governance of the European bioeconomy.

[Play Game](#)

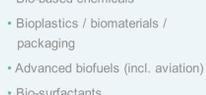
"Bio...What?" is an online game that can raise young generations' awareness on the bioeconomy, stimulating curiosity and delivering information and content about bio-based products.

Through the game, the player discovers how different raw materials and feed-stocks can be used to produce everyday objects and products like furniture, food packaging, vehicle tires, toys, textile products, office supplies and more.

The gameplay is engaging and active, taking inspiration from the "Mario Bros" game. Based on the number of correct answers and the ability to avoid traps and fossil-based obstacles, the player will get a score which is shareable on Facebook.



The game is available in English and Italian, and will soon available Spanish, Greek, Portuguese, Estonian and Slovak.



04

### BIOWAYS' reference group: Presentation and state of play

BIOWAYS is pleased to announce that, following the call published earlier this year, 22 high level experts have joined the project's "reference group". The objective of the group is to advise and support the BIOWAYS partners on their mission to enhance the visibility and potential of bio-based products and applications.

The reference group is made up of experts from various disciplines in the research community, policy advisers, entrepreneurs, data scientists and the general public, from different sectors.

- Bio-based chemicals
- Bio-lubricants
- Bioplastics / biomaterials / packaging
- Food ingredients and feed
- Advanced biofuels (incl. aviation)
- Bioeconomy
- Bio-surfactants

Interaction with members of the reference group will be done both ad-hoc (remotely) as well as during social hack-days and pilot training seminars that will be organised to facilitate direct interaction and seek advice about BIOWAYS' key findings.

The profiles of some members of the reference group are available [here](#).

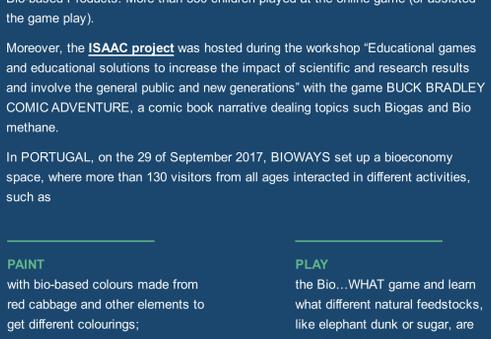
The recruitment process is still open. If you are interested in being part of this group, please fill in an expression of interest form [here](#).

05

### Key results from European Researchers Night (ERN) in Italy and Portugal

BIOWAYS brought the bioeconomy into the European Researchers Night 2017

This year edition of the European Researchers Night, counted with BIOWAYS' presence in Rome, Cesena, Bologna (Italy) and in Aveiro (Portugal).



In ITALY, on the 28, 29, 30 September 2017, BIOWAYS organised many different activities, from workshops, laboratories to exhibitions and activities for schools. BIOWAYS created different areas allowing the public to discover the Bio-based products through demonstrations and experiment, showing practical everyday applications, such as:

Constructions and insulation, natural painting, bioenergy, biofuel and biogas, catering disposals, etc.

Around 1000 persons (mainly children and families) have visited our exhibition stand that was enriched by research and products provided by our supporting partners.

CNR (Italian National Research Council) researchers brought examples of Bio-Plastics made from Cannabinoid-free Cannabis sativa (CNR-IBAF Institute of Agro- Environmental and Forest Biology, Montelibretti) and Biodiesel from degenerated wastewater sludge (CNR-ISTM Institute of Molecular Science and Technologies, Milano). The company ECOZEMA provided several examples of Bio-based catering disposal from maize starch and cellulose pulp.



The new Serious Game "**Bio...WHAT?**" was also presented for the first time to students and families.

The game is an edutainment tool developed by the BIOWAYS project, in partnership with the **BioSTEP project**, to raise young generations' awareness about Bioeconomy, stimulating curiosity and delivering information and contents about Bio-based Products. More than 350 children played at the online game (or assisted the game play).

Moreover, the **ISAAC project** was hosted during the workshop "Educational games and educational solutions to increase the impact of scientific and research results and involve the general public and new generations" with the game BUCK BRADLEY COMIC ADVENTURE, a comic book narrative dealing topics such Biogas and Bio methane.

In PORTUGAL, on the 29 of September 2017, BIOWAYS set up a bioeconomy space, where more than 130 visitors from all ages interacted in different activities, such as

#### PAINT

with bio-based colours made from red cabbage and other elements to get different colourings;

#### SEE AND TOUCH

products like plates, bowls, cutlery... produced using maize starch and cellulose pulp;

#### AND AFTER ALL, LEARN

about the significant potential of the bio-based products and the positive impact in our everyday lives.

#### PLAY

the Bio...WHAT game and learn what different natural feedstocks, like elephant dung or sugar, are used to produce what type of bio-based products;

#### READ

our factsheets with information about different types of bio-based products and their applications.



### 06 Events

DATE  
5 - 6 October 2017

LOCATION  
Rome, Italy

#### BIOWAYS at the IFIB 2017 - Italian Forum on Industrial Biotechnology and Bioeconomy

On the 5th of October at 17.55, BIOWAYS will present at the IFIB Italian Forum on Industrial Biotechnology and Bioeconomy, specifically its findings from the online survey on public perception of bio-based products in their intervention "What the Great Public Thinks about Bioeconomy?"

[More Info About Event](#)

DATE  
7 - 10 November 2017

LOCATION  
Rimini, Italy

#### BIOWAYS at ECOMONDO 2017 – The green technologies expo

BIOWAYS will participate in ECOMONDO, the biggest euro-Mediterranean expo in circular economy.

On the 8th of November 2017, from 9.30 to 13.00, BIOWAYS will be in the session "Innovation in Bioeconomics: Technology Clusters, National and International Projects", presenting the results from its online survey "Public perception of bio-based products" conducted in May 2017.

Furthermore, BIOWAYS will also present relevant findings from the 41 interviews conducted with major European stakeholders at European level. These interviews were carried out to gain a better understanding of the public perception of bio-based products.

[More Info About the Session](#)
[More Info About Event](#)

DATE  
1 - 3 December 2017

LOCATION  
Rome, Italy

#### Maker Faire Exhibition - BIOWAYS VILLAGE

In December 2017 at the **Maker Faire** in Rome, BIOWAYS will host a bioeconomy exhibition space for showcasing demos and presentations of bio-based products and their applications.

Invited researchers and companies will show their products through experiments and practical demos. Creative games and workshops will be also promoted throughout the duration of the event.

A call for bio-based products is currently open! If you are a researcher, start-up or company working in this field and you are interested in showcasing your work to the general public in the Maker Faire, please send us an email to [info@bioways.eu](mailto:info@bioways.eu)

[More Info About Event](#)
