bloom

Boosting European Citizens' Knowledge and Awareness of Bioeconomy Research and Innovation

Picture: Pixabay

A lot has happened in the BLOOM project since our last newsletter! Our five regional bioeconomy hubs have invited a broad range of stakeholders from civil society, business, academia and industry to their first co-creation workshops. The workshops are designed to support mutual learning and aim at achieving a common understanding. Participants can share their opinions and experiences of the bioeconomy and collaboratively create ideas on how the topic can be communicated to different target groups.

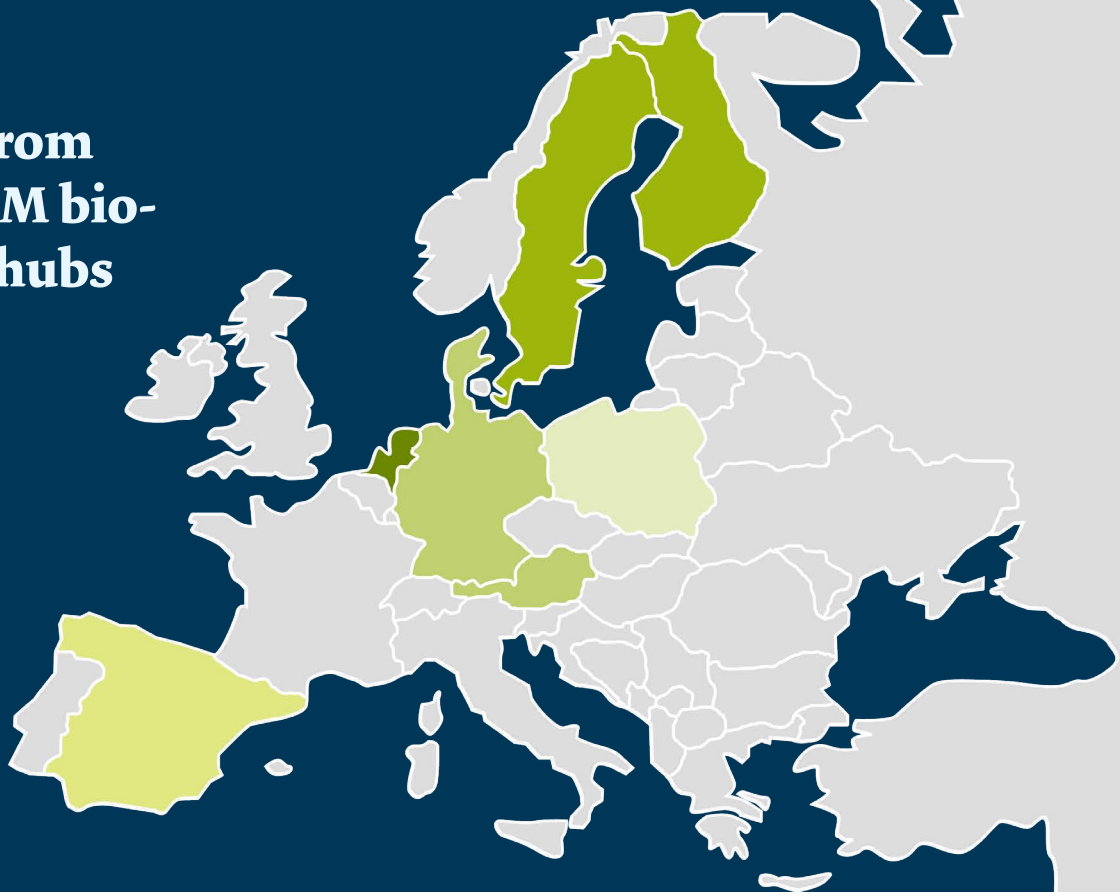
On 4th March the MOOC "Boosting Bioeconomy Knowledge in Schools" has started with 1126 teachers participating! This 4 modules course has been developed by 20 teachers from our School Network. The free online course is built around five lesson plans from the BLOOM School Box, dedicated to different STEM subjects with focus on bioeconomy.

Enjoy reading our newsletter!

And have a look at our new video, giving a brief introduction into the BLOOM project:

Content:

Updates from the BLOOM bio-economy hubs



Nordic Hub

Area: Wood based products
The Nordic hub (Sweden & Finland) aims to raise public awareness about the possibilities of forest products.

News from Finland

One, two, three, CO-CREATE!

What do we know about new wood-based products and materials in Finland? What kind of information would we want to have? Who should we communicate with about these new innovations and how can we reach out to them? We tried to find answers to these questions in two co-creation workshops of the Nordic hub organized in Jyväskylä, Finland, in Nov 2018.

A diverse group of people participated in both workshops, representing civil society, academic world, business & industry, education and the policy sector. We were especially delighted by the active and enthusiastic participation of our youngest contributors from the local Youth Parliament!

In two three-hour workshops, we had interesting presentations about forest bioeconomy from Sirpa Kärkkäinen (the Finnish Forest Association) and consumer behavior from Roosa Blom (blogger and entrepreneur). These introductions led us smoothly into the topic.

What does "wood-based" mean?

By using different workshop methods, we were able to get an understanding of each participants' point of views on wood use and wood-based materials and products. Jointly, the workshop participants co-created new ideas. In the first workshop, we used the brainstorming method to find out what is already known about the new wood-based products and materials and what kind of information would be needed in order to make more sustainable decisions. The participants got the task to reflect on whether the communication of these new wood-based innovations reaches the wide audience. They also had to discuss whom should the communication be targeted to. To make things short, the conclusion could be phrased as:

"Forest bioeconomy and its new innovations have gained a lot of publicity in Finland - but still many of these new applications are relatively unknown for the wide audience. Thus, it's important to encourage discussion about these applications and their qualities, especially among young people, to make sustainability transparent and an important criteria within consumer decision making".

Picture: Aino Voutilainen

Meet Jani, Alina, Jarmo and Riitta!

In the second workshop, joy and laugh filled the room when the participants got the chance to create different personas with the avatar method. The age and sex was defined, but other characteristics were formed along the workshop process. With the method, we were able to recognize the interests and routines of the representatives of different focus groups and we got an insight on where they get confronted with bioeconomy in their daily lives. After creating four personas, the participants used the future scenarios method to define these personas' attitudes about sustainable development and bioeconomy and to create ideas on how we could reach out to them.

Four different personas were developed. Despite the differences the personas had, the participants came to the conclusion that similar kind of outreach activities, such as fairs, traditional and social media, social media influencers etc., are effective ways in reaching out to these four different kind of personas.

So without further introduction, here are the four personas:

Jani, 17 yr.

Alina, 27 yr.

Jarmo, 47 yr.

Riitta, 67 yr.

Pictures: Diana Pitkänen

By following the activities and updates of the Nordic hub of the BLOOM-project, you'll hear more about these personas: what are their likes and dislikes and what do they think about bioeconomy – so stay tuned!

Targeting the youth, but how?

The Nordic hub has chosen youth as its focus group and it will organize two additional co-creation workshops in the coming spring – one in Finland and one in Sweden. We will invite young people to these workshops to co-create concrete ideas for actions on how to communicate about forest bioeconomy and wood-based products and materials to youth in a way that's interesting. So if you know that some students of your high-school, vocational school etc. would be interested to participate, get in touch with us!

Aino Voutilainen, JAMK University of Applied Sciences

News from Sweden

Let's talk about the bioeconomy!

What is the bioeconomy to you? That was one of the questions that we asked participants of the first co-creation workshop held within the framework of the EU project BLOOM Bioeconomy and its Nordic Hub. Together with representatives from different parts of society, we wanted to find out how we can best increase interest and knowledge of the bioeconomy amongst the public in Sweden.

What does the bioeconomy mean to me? Picture: Lotta Tomasson

Representatives of academia, industry organisations, civil society and regional actors devoted the afternoon of 5th December 2018 to discuss forestry and forest-based materials in the Swedish bioeconomy. The purpose of the workshop was partly to gain a common understanding of the concept of the bioeconomy, to find out which forest-based materials and products are used in society, and the type of communication activities that are currently being carried out.

After a brief introduction of the BLOOM project and some ice-breaker knowledge sharing exercises, we moved directly to the core of the workshop by asking the participants: What does the bioeconomy mean to you? In the group discussions that followed, the participants had to agree on and find a common definition of what the bioeconomy is. The group findings resulted in the following definition:
"An economy based on rural resources, business and competence which is renewable and consists of products/services from natural resources/biomass materials and processes (soil, forest, sea and fresh water). It is an economy that includes trade with ecosystem services which might require a conversion of processes and skills."

As a fun and creative end to the workshop we asked the participants to reflect on target groups for future communication activities by creating a fictional person that we should target with information about the possibilities that the bioeconomy offers. The two groups threw themselves wholeheartedly into the exercise and created two personas.

On 29th January, parties interested in bioeconomy, forestry and forest issues were invited to a second workshop in Stockholm. This time we went more in-depth into the topic and focused on target groups and activities to help communicate about the bioeconomy. The overall goal of the workshops is to create arenas for knowledge transfer and dialogue, and to design activities at both regional and EU level to increase interest and knowledge of the bioeconomy in society, about how we can become more climate-smart, reduce the use of fossil fuels and reduce material waste through the use of innovative bio-based raw materials.

What are the target groups? Creation of personas. Picture: Maria Hagardt

The results of the discussions will be used by the BLOOM Nordic Hub to design and implement various types of communication activities in both Sweden and Finland.

Maria Hagardt, Vetenskap & Allmänhet

Would you like to participate? Get in touch with the Nordic Hub:

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Polish Hub

Area: Food and agriculture
The main objective of the Polish hub is to increase interest in bioeconomy studies and education.

News from Poland

Co-creation workshops in Małopolska

The co-creation phase at the Polish Hub is now coming to an end. Over a period of nine months – from July 2018 to March 2019, we planned five workshops dealing with the broad context of designing communications about the bioeconomy. Participants included representatives of academic and non-academic research institutes, the members and directors of two clusters: LifeScience and CleanTech Polska, representatives of the Marshal's Office of the Małopolska Region, representatives of public institutions providing support for research and development, employees of agricultural advisory bodies, representatives of foundations and associations promoting and supporting sustainable food production and consumption as well as of associations devoted to sustainable development, of economic entities active on markets for foodstuffs, wooden craft products, products for the agricultural sector, sewage treatment solutions, services for ecological agriculture and bioplastics. It is also worth noting that representatives of the identified target groups took part and that members of the scientific community involved in propagating scientific innovations are expected to take part in the workshops planned to be held in March.

Workshop activities were based on the following model:

1. July 2018: Identification of stakeholders of entities engaged in the bioeconomy and assessment of innovative readiness and openness to trends among representatives of businesses, NGOs and the scientific community

2. October 2018: Day 1: Creation of content in the field of economy considered to be important from the point of view of representatives of the scientific community, public authorities, NGOs and business. This resulted in the creation of 10 presentations on selected issues, topics, products and contexts related to the bioeconomy. They were presented at an open seminar, where they were commented on and discussed more widely

3. October 2018: Day 2: Clarification of topics / area of communications: What to communicate? Drawing up of profiles of communications targets – main groups for which outreach activities are to be developed: Who to communicate with? Drawing up of empathy map for representatives of specific groups: Why communicate?

4. November 2018: Determination of the degree of engagement with communications and drawing up of a calendar for future participants in outreach activities with the involvement of representatives of identified target groups. Presentation of actual existing innovations in products / services that can be offered by the scientific community and business to representatives of the identified target groups: feedback for business and the scientific community, gathering of information on the topic of innovation as expressed in the words of the target groups.

5. March 2019: construction of specific communication formats for selected groups of communications targets

During the workshops, in addition to achieving the specified goals, a great deal of important information was gathered about the state of the bioeconomy in Małopolska. Factors giving reason for concern included the low level of awareness of entities active in the bioeconomy sector and an incorrect understanding of the concept itself, as well as sometimes negative associations arising in relation to the definition of bioeconomy, something that was revealed in particular in contacts with business. Conditions imposed by institutions, in particular with reference to the waste management, also turned out to be a significant problem, which means that changes are nevertheless still necessary at a central administrative level.

In Małopolska, a growing interest can however be seen in the topic of the bioeconomy. Proof of this is available in the form of the pan-European Vanguard Initiative project being conducted in partnership with the BLOOM project, which represents a step towards the creation of a regional network of smart specializations, including in bioeconomy in particular. The level of attendance and interest in the co-creation workshops held to date has also been a pleasant surprise. Representatives of NGOs and entities involved in sustainable food production underline the growth in interest in the quality of food, and the region has an expanding network of direct sales, with local markets and those specializing in ecological products doing increasingly well. This, in combination with the specific conditions existing in the region, means that food appears to be a product of strategic importance in the bioeconomy in Małopolska. Entities involved in sewage treatment and municipal waterworks are also very interested in the topic and actively looking for solutions based on the bioeconomy, both with regard to biological methods of sewage treatment and the use of sewage sludge. Another noteworthy development is the research being conducted and the first attempts at deployment in the area of the production of biopolymers from both fresh and used edible oils. Using specific strains of bacteria, it is possible to produce fully biodegradable plastic from such oils. Fresh oil can be used to produce elements which have applications in medicine – in cardiology, neurosurgery and other fields.

Amongst other things, the co-creation workshops made it possible to determine the areas and content which are of particular importance for future communications – these are first and foremost topics related to food in the context of its quality, understanding of its significance and content relating to certification and food safety, as well as issues relating to waste: management of waste and possibilities of re-use.

The most important target groups for communications were also identified. Based on demographic characteristics, the most important group is: women aged 25 and more, with their own family or in a relationship, who have the main responsibility for shopping decisions, and who thus have an influence on the model of consumption adopted in the household. Participants in the workshops also singled out a group consisting of young, conscientious, educated people, who are aware of economic, social and environmental changes, and are thus looking for further information and are ready to become involved in change and in promoting values related to sustainable consumption and production. Two professional (institutional) groups were also identified: representatives of the public authorities and farmers.

The final component, namely specific, detailed communication formats designed specially to meet the needs, available time slots and readiness for engagement of the individual target groups is still to be worked on at the forthcoming workshops in March. In contrast to those held to date, the forthcoming workshops will be held at the Copernicus Science Centre in Warsaw, in which members of the scientific community involved in propagating scientific innovations and promoting knowledge will be invited to take part, who will propose customized solutions which will take account of the results of previous work carried out by representatives of the quadruple helix.

Malgorzata Pink, University of Agriculture in Krakow

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Austrian & German Hub

Area: Innovative circular materials
This hub aims to better integrate stakeholders and increase the general understanding and interest for a bioeconomy.

News from Austria and Germany

Co-creation on bio-based packaging

In the Austrian-German Hub two co-creation workshops have taken place since the last newsletter has been sent out.

In Vienna, a workshop on sustainable packaging alternatives within the bioeconomy was conducted with broad participation from relevant stakeholders, such as a producer of bio-based and biodegradable plastics, a representative of a supermarket chain, waste management experts, the Chamber of Labor, the federal ministries responsible for formulating the national bioeconomy strategy, high school and undergraduate students, a high school teacher, as well as representatives of research organizations.

The diverse group of participants enabled cross-fertilization of ideas and resulted in highly interesting discussions and outcomes. Specifically, the group discussed different perceptions of bioeconomy by different stakeholder groups, the role of social innovations to govern bioeconomy innovations and specific (minimum) requirements for bio-based packaging products, to harvest its full potential and avoid unintended negative consequences.

Meanwhile, another co-creation workshop took place in Bonn focusing on the intersection of bioeconomy research and civil society, and how these can be made available for the broader public. In the final co-creation workshop these insights shall be used to develop concrete formats and materials to address different group of stakeholders in the upcoming outreach activities.

Clemens Gattinger, Ökosoziales Forum

Would you like to participate? Get in touch with the Austrian & German Hub:

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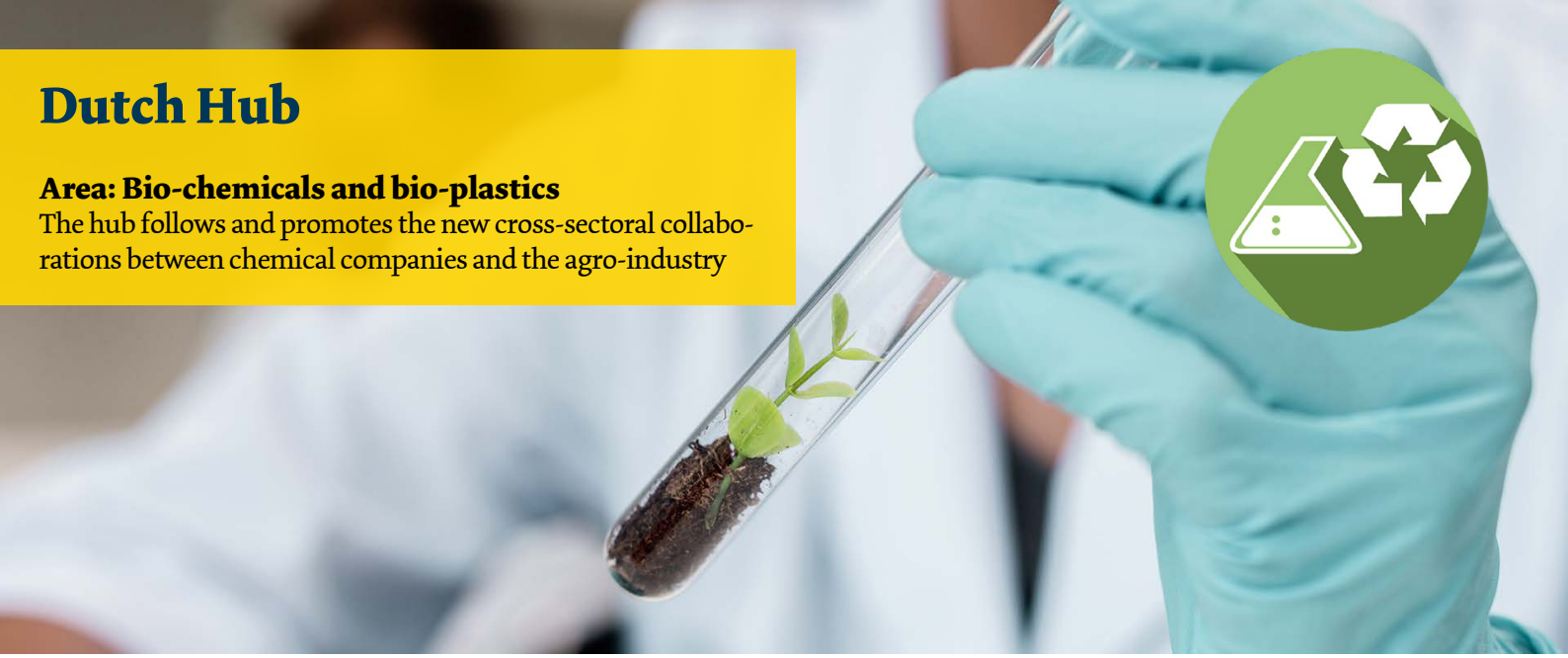
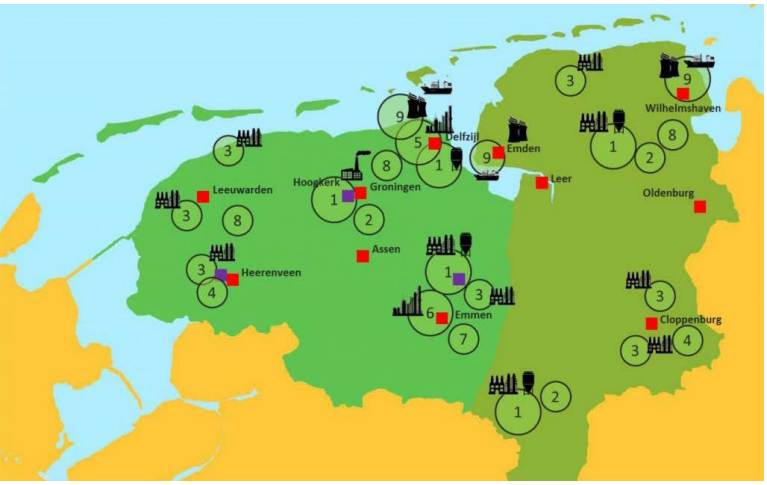


Dutch Hub

Area: Bio-chemicals and bio-plastics
The hub follows and promotes the new cross-sectoral collaborations between chemical companies and the agro-industry

News from the Netherlands

Fostering the transition to a green economy



Picture source: Noord4Bio; Concrete kansen voor een biobased economy in Noord-Nederland, Bos et al 2015.

The Hub of North Netherlands is developing new economic perspectives for the region with the transition into a new green economy. The focus is on the development of new energies based on hydrogen power and on the production of bioplastics, both from local biomass and from recycled plastics. Within the Chemport cluster, the North of The Netherlands has the potential to valorise different fibres and sugar rich biomass resources from (waste material from) regional arable farming, into building blocks for the biochemical industries. Within the cluster of Chemport Emmen, which has a focus on sustainable polymer innovations, the building blocks can be processed into bioplastics.

In the North of the Netherlands main players in the network of bioeconomy are triple helix partners from province and municipalities, educational and research institutes and representatives of the business community from developing agencies, business parks and cluster organizations. This network meets often and has created technological innovations, which are currently being processed through the innovation pipeline; some already reach towards TRL7 (technology readiness level). The region is building facilities which support this technological development. The regional sourcing of biomass and the actual volumes of biobased production lines is still very limited. The social readiness of greening the economy and the awareness of the characteristics of biobased products is also rather limited. This is the starting point for BLOOM activities.

BLOOM will align with the current network and will contribute to reach out for the general public to discuss the perspectives and to create outreach materials. The regional partners of the Dutch Hub are mobilising participants for the first co-creation workshop, which is planned to take place in the beginning of April 2019. The plastic problem and the potentials to develop alternatives in the North of the Netherlands will be the central subject in this workshop.

Remco Kranendonk, Wageningen University & Research

Would you like to participate? Get in touch with the Dutch Hub:

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Spanish Hub

Area: Food and agriculture
The hub promotes networking between all the actors involved into the agri-food sector in the Mediterranean area.

News from Spain

First co-creation meeting of the Spanish Hub on Circular Bioeconomy

Researchers from the universities part of the Agrifood Campus of International Excellence ceiA3, officials and representatives of the private sector participated in the first co-creation workshop of the Spanish circular bioeconomy hub. This event was promoted by ceiA3 within the framework of the H2020 BLOOM project, of which it forms an integral part.

During the meeting inaugurated by Enrique Quesada Moraga, vice-chancellor of Territorial Research and Development of the University of Cordoba and general coordinator of ceiA3, different strategies at European, national and regional level on circular bioeconomy were mentioned. Specifically, some features and the context of the Circular Bioeconomy Strategy in Andalusia — a pioneering region in its development and approval — were described.

From their professional experience, experts participating in the meeting had the opportunity to discuss issues related to the current situation of knowledge of the bioeconomy and its potential. They also talked about some aspects related to the communication strategy to be adopted in order to bring this area of knowledge closer to the society. That is to say, the establishment of the target audience in first place, the definition of the message to be transmitted, the dissemination activities to be organized, as well as the most appropriate and effective communication channels to use.

The Spanish Hub on Circular Bioeconomy — which is leaded by ceiA3 and focuses on Food and Agriculture with a fourfold approach based on academy, local authority, business and society — is made up of experts from the five universities of ceiA3, the Andalusian Regional Ministry of Agriculture, Fisheries and Rural Development, as well as the Andalusian Agency of Knowledge, ADEGUA Rural Development Group, Grupo La Caña and the Spanish Association of Biotech companies ASEBIO.

Rocio Juste Ballesteros, ceiA3

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Updates from the BLOOM school network

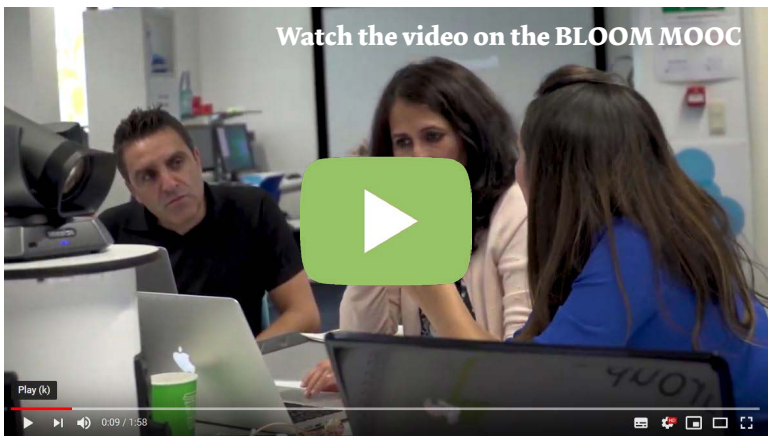
Boosting Bioeconomy Knowledge in Schools

Our MOOC (massive open online course) "Boosting Bioeconomy Knowledge in Schools" has started on 4th March 2019, with 1126 teachers participating (and more might still join)! In our free online course, teachers discover five different lesson plans for STEM subjects with a focus on bioeconomy.

The MOOC will help participants understand the importance of bioeconomy for society, education and students. Bioeconomy is an important aspect of the European Commission's strategy to boost job growth, at the same time being central to discussions around achieving sustainability in the use of environmental resources. Bioeconomy is therefore an exciting instrument teachers can use to put their science teaching in context and encourage students to find solutions to current societal issues.

The MOOC addresses Science, Technology, Engineering and Mathematics (STEM) teachers in primary and secondary schools, but teachers of other subjects, as well as teacher trainers and bioeconomy stakeholders. This course is divided into 4 modules and aims to give a fresh perspective into the bioeconomy field and its application in STEM subjects to educators. Teachers who join the course are invited to create and share their learning scenario on how to integrate bioeconomy in Science, Technology, Engineering, Mathematics (STEM) or primary education classes. The best three works will be awarded with Scientix nanotechnology gloves for their whole class (30 gloves per class)! Additionally, the best 15 learning scenarios will be published in the BLOOM repository.

The course is inspired by the BLOOM School Box – a collection of lesson plans created by the 20 BLOOM pilot teachers from Austria, Belgium, Croatia, Greece, Italy, Israel, Poland, Portugal, Spain and Sweden, who developed and tested these resources in their classrooms. The learning scenarios serve as an inspiration to other teachers out there to integrate bioeconomy into their teaching.



Bioeconomy: Learning together and engaging students in finding solutions to future problems – The BLOOM pilot teachers share their experiences

Working on the BLOOM project is an interesting adventure for the four of us teachers from two countries: Sweden and Greece. First of all, the word "bioeconomy" was not only hard to explain to our students, it was equally hard to understand for us teachers in the beginning.

When the BLOOM project was introduced to us, it sounded like a very interesting concept and we immediately liked the idea! We were introduced to the concept along with many different possibilities and ideas about how biobased products can be made and used in real life. We got curious and started looking for various ways to introduce it to our students. We started brainstorming to plan a lesson on the topic that we ourselves didn't understand. But as they say, teamwork always brings out the best in you, soon there were only learners in the classrooms: both teachers and students were learning about new aspects of bioeconomy at the same time. So, while going through environmental pollution problems with our students and looking for possible solutions with them, we accidentally understood the meaning together!

The learning scenario we developed during the project as part of the BLOOM Schoolbox, aims to connect everyday life examples to the topic at hand, then developing further into an entire project. First, students create a poster on bio-based products they found in the market. Then, they are involved in experimental laboratory work, where they conduct three experiments, collect data and make conclusions according to the instructions given in three worksheets.

BLOOM was a great way to engage students in science as they were offered the opportunity to link their classroom activities to real-life experiences! A student-centered approach was adopted, as our pupils were involved in designing their learning experience in collaboration with their peers through projects that allowed them to reflect and synthesize on what they have learned.

Furthermore, bringing real world problems - such as environmental issues - to classroom is really important! Each time students attempt to solve problems they come across in their daily lives, learning becomes meaningful! While implementing our learning scenario, students were also encouraged to publish their work through the creation of a Youtube video. After doing the planned lessons in our respective classes, we also asked our students about BLOOM's impact on them. According to their feedback, BLOOM was inspiring, engaging, meaningful and... fun!

Preeti Gahlawat, Kiki Liadaki, Effie Papageorgiou and Eirini Siotou, BLOOM expert teachers

Picture: GEN Europe

Changing Systems Needs Multiple Solutions

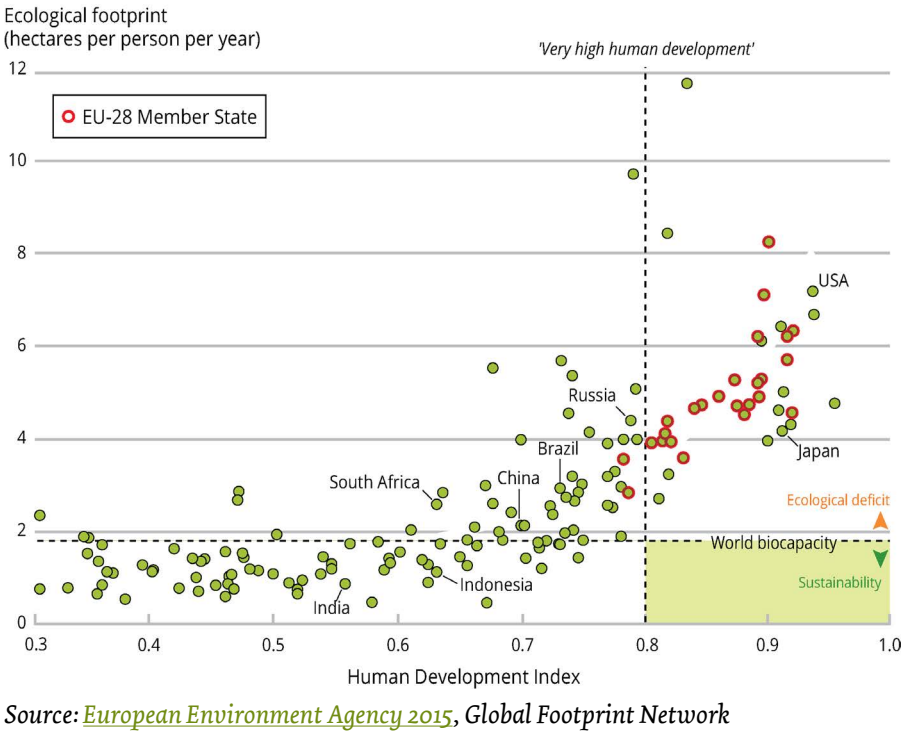
In order to face global problems such as climate change, biodiversity loss, ecological degradation and economic inequality, many different kinds of solutions will be needed: a blend of solutions aimed at changing complex larger systems at political, industrial and economic levels such as the circular bioeconomy, as well as small-scale bottom-up solutions like the ones proposed by local communities and ecovillages.

We live on a planet with limited resources. During the last decades, natural systems have been continuously overexploited by human activity, which lead to a serious degradation of ecosystems, loss in biodiversity and climate change. Yet human development and wellbeing are reliant on natural systems, and we cannot continue to enjoy the former without taking care of the latter. In many ways, we cannot continue with "business as usual". We need to find ways of addressing the crucial questions of how to limit global warming to 1.5°C and restore degraded ecosystems while at the same time feeding a growing global population.

The challenge we are facing is none like any other. According to the Living Planet Report 2018 of WWF, over the past 50 years our Ecological Footprint (a measure of our consumption of natural resources) has increased by about 190%[1]. But what would another kind of development look like, one that does not degrade the ecosystems we rely on? The figure shows the relationship between the Ecological Footprint and the Human Development Index of countries. In order to live within the limits of the world's biocapacity while ensuring human wellbeing, all countries would have to be in the sustainable development quadrant at the bottom right of the figure. The distance between most countries and that quadrant shows the magnitude of the challenge we are facing.

To replace the current, fossil fuel and growth-based economies and mitigate climate change, a transition to a low-carbon society is urgently needed. This shift requires innovative and systemic responses at many levels, driven by governments, industry, academia and local communities. We need to find new ways of producing and consuming.

One of the approaches aimed at mitigating climate change by replacing fossil fuels with renewable biomass is the bioeconomy. A circular bioeconomy has



Source: European Environment Agency 2015, Global Footprint Network

1 WWF 2018: Living Planet Report 2018, Aiming Higher – Summary

the potential to contribute to more sustainable practices and to mitigate climate change through techniques ranging from simple ones such as turning waste into raw materials used for manufacturing, to highly complex ones like creating a whole range of new and eco-friendly materials such as bioplastics.

The Global Ecovillage Network GEN Europe is one of 12 partner organizations involved in the Horizon 2020 funded project BLOOM. The main objective of the project is to establish open and informed dialogues on bioeconomy, co-created by European citizens, civil society, innovation networks, local research centres, business, industry stakeholders and various levels of government. BLOOM is creating spaces for the needed debate on preferences and values concerning the bioeconomy; for interaction and exchange of information, knowledge, meaning and aspirations, with the aim of establishing consensus on how a bioeconomy can be realized.

A circular bioeconomy can help lessen the environmental impact of resource use, but a systems approach that manages social, economic and environmental considerations together is required. In order for the production of bio-based products to be sustainable, practices that conserve natural ecosystems, biodiversity, soil fertility and water quality are essential. According to the new European Bioeconomy Strategy, *"to be successful, the European bioeconomy needs to have sustainability at its heart and be circular by definition. The purpose of the updated European Bioeconomy Strategy is therefore to further develop a bioeconomy that valorises and preserves ecosystems and biological resources, drives the renewal of our industries and the modernisation of our primary production systems through bio-based innovation, involves local stakeholders, protects the environment and enhances biodiversity."* [1]

An economy founded on biomass instead of fossil fuels marks a significant shift in socioeconomic, agricultural, energy and technical systems. However, the implementation of these measures and changes is challenging at national and international levels. Additionally, other approaches and responses are required at other levels, if we want to transition to a low-carbon society in the needed time expediently.

At the local level, where the process of transformation is more manageable, many communities are already taking initiatives themselves and creating small-scale local solutions for human development and wellbeing that do not strive for the traditional goals of economic growth. The communities and ecovillages that are members of the Global Ecovillage Network GEN Europe are examples of such initiatives, alongside others such as community gardens, community energy cooperatives, social enterprises and zero-waste initiatives. Some of them are going way beyond the EU targets agreed for 2020 in the reduction of their carbon footprint and are showcasing what a sustainable lifestyle could look like locally. Ecovillages are implementing local sustainable solutions, in the form of sustainable building techniques, organic agriculture and permaculture, using renewable energy sources and finding alternatives to the provisioning of a number of goods and services. Moreover, communities and ecovillages work with social innovation, experimenting with alternative forms of governance and organization and creating a different narrative on how to live in a regenerative way.

The European research project TESS explored the role of community-based initiatives in creating a sustainable, low-carbon Europe. It found that *"if 5% of European citizens engaged as beneficiaries of CBIs[2] similar to the ones sampled, almost 85% of the EU-28 countries would meet the target of reducing GHG emissions by 20% by 2020 (considering the food/agriculture, waste, energy and transport domains)."*[3] Local community-based initiatives and grassroots movements have an immense potential to contribute to the shift to a regenerative future. They prototype and test sustainable innovative practices in everyday life, effecting changes that are socially embedded from the outset.

In order to face global problems such as climate change, biodiversity loss, ecological degradation and economic inequality, many different kinds of solutions will be needed: a blend of solutions aimed at changing complex larger systems at political, industrial and economic levels such as the circular bioeconomy, as well as small-scale bottom-up solutions like the ones proposed by local communities and ecovillages. In the end, in order to have a lasting effect, all solutions will have to be socially accepted and embedded. There are many ways how each one of us can contribute towards a more sustainable economic system: through the everyday choices we make, the products we decide to consume or to abstain from, through the way we choose to live. We need to rethink and redefine the way we relate to nature and to each other, what we consider our deepest aspirations and how we define what a happy and well-lived life looks like.

Sarah Friederich, GEN Europe

Further reading:

- Local, community-led: a new future unfolding. Booklet by ECOLISE (European Network for Community-led Initiatives on Climate Change and Sustainability)
- Global Ecovillage Network GEN Europe
- Global Ecovillage Network (international)

2 Bioeconomy: the European way to use our natural resources. Action Plan 2018, European Commission

3 Community-based initiatives

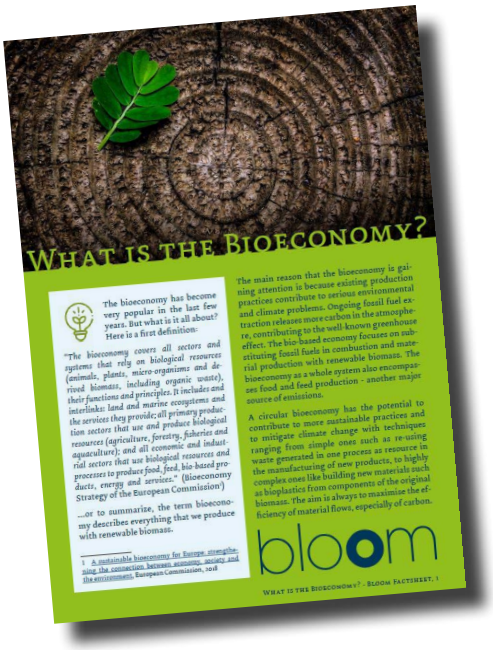
4 Potential of Community-based Sustainability Initiatives to Mitigate Climate Change - Results from TESS

Picture: Pixabay

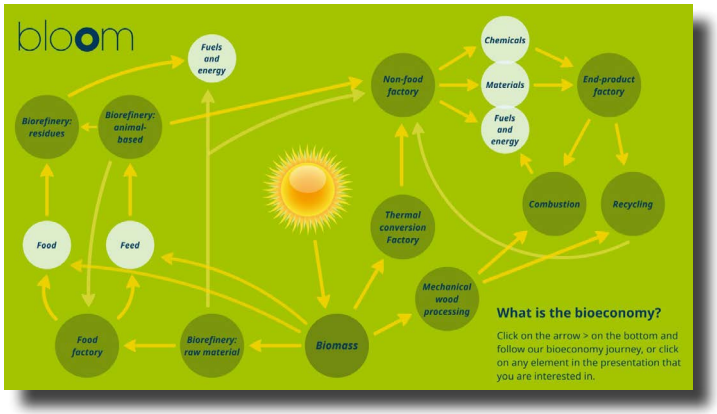
What is the bioeconomy? BLOOM information and outreach materials

We have developed a first set of information and outreach materials on bioeconomy: a factsheet and a dynamic infographic that takes you on a journey through the bioeconomy value chain.

What is the bioeconomy? And what are biobased products? What are some of the ethical questions that need to be addressed in the implementation of a circular bioeconomy? Find out more in our new factsheet:



Bioeconomy covers a broad range of sectors, from the agro-food industry and fisheries to biorefineries, biochemicals, bioenergies and forestry. We invite you on a journey through the bioeconomy value chain to find out more:



Stay updated how BLOOM is engaging EU citizens and civil society in the bioeconomy via the project website and social media:

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 773983.