

# Accelerating the development of national bioeconomy strategies through targeted policy support

Conclusions from three workshops organised by the BIOEAST Initiative and  
the SCAR Strategic Working Group on Bioeconomy  
on Policy Support Facility (PSF) tools for developing bioeconomy strategies

Drafting author: Alexandru Marchis

Reviewers: Barna Kovacs; Alexandros Theodoridis; Alex Percy-Smith

The content of this paper does not necessarily represent the views of Member States or the EC.

**Contents**

Executive summary ..... 3

Overview of the state of play in preparation of the national bioeconomy strategies in the countries . 5

    1.1 What are the problems to overcome? ..... 5

Building political momentum and setting ambitions for bioeconomy strategies..... 6

    1.2 Setting the scene ..... 6

    1.3 The identified indicative support measures..... 7

Short-term, operational policy support needs..... 8

Long-term, strategic areas ..... 9

The conditions for policy support to accelerate bioeconomy strategy deployment in countries..... 12

## Executive summary

The updated EU Bioeconomy Strategy and action plan (COM/2018/673) sets the scene for the development of national and regional bioeconomies and aims to maximise their contribution towards the 2030 Agenda and its Sustainable Development Goals (SDGs), as well as the Paris Agreement. The update also responds to European policy priorities, in particular the renewed Industrial Policy Strategy, the Circular Economy Action Plan and the Communication on Accelerating Clean Energy Innovation, all of which highlight the importance of a sustainable, circular bioeconomy to achieve among others their climate objectives. However, in some countries, there is a need for structural changes: i.e. in the national and local governance and public administration, in the business environment, in education and social context, all of which require systemic approach and additional financial support, it needs structural reform.

It is clear from the previously published scientific reports that the biomass and bio-resources will play a key role in mitigating the climate change and reducing the greenhouse gas emission. Using those resources, the bioeconomy is meant to be a cross-sectoral policy. However, its sustainability and circularity aspects pose an enormous challenge for the Member States' governance. The silo-based sectoral thinking needs to shift and new overarching policy orientations should replace it. This is a difficult process, which needs new strategic thinking and policy support.

Responding to a need to organise a platform for discussion of the challenges in developing a dedicated Bioeconomy Strategy for countries which could benefit from a policy support facility, -as was mentioned in the Commission Communication- i.e. especially the BIOEAST<sup>1</sup> countries: BG, CZ, EE, HR, HU, LT, LV, PL, RO, SI, SK, as well as those countries that do not have strategies, a series of three workshops were organised in the first half of 2019. Three reports were outputs of the three workshops and they can be found on the websites of BIOEAST at <http://www.bioeast.eu/documents> and of the Standing Committee on Agricultural Research Strategic Working Group on Bioeconomy (SCAR SWG BSW) at <https://www.scar-swg-sbgb.eu/documents>.

In this document, the main points from the three workshops are drawn together in a consolidated set of conclusions and elements for the dedicated **Bioeconomy Policy Support Facility (BE-PSF)** are proposed.

Moreover, the report helps the countries to form their policy support needs in the context of their national sustainable and circular bioeconomies.

The overall aim of the workshops was to assist MSs and the EC in identifying necessary elements for policy support that will allow development and implementation of national and/or regional bioeconomy strategies across Europe. Naturally, it was challenging to engage those countries, which do not have a bioeconomy policy in place in this process, since, sometimes they did not have a clear understanding among the various ministries on the word "bioeconomy".

Between 40 and 50 country representatives from ministries and research institutes from the BIOEAST Initiative, the SCAR BWG members, the European Commission and Bio-Based Industries Joint Undertaking (BBI-JU) staff participated in the workshops. The workshops were organised by a small team from the BIOEAST Initiative and the BSW with support from consultants funded by the CASA project, a Coordination and Support Action (CSA) funded under Horizon 2020 (Grant number 727486). The workshops included a combination of presentations and facilitated discussions.

According to the opinions expressed by the Member States' representatives, the BE-PSF support should be built to ensure direct policy transposition support from the Commission to Member States, in a transparent and efficient manner. PSF projects should provide opportunities for every Member

---

<sup>1</sup> BIOEAST: "Central and Eastern European initiative for knowledge-based agriculture, aquaculture and forestry in the bioeconomy" offers a shared strategic research and innovation framework for sustainable bioeconomies in 11 countries: <http://www.bioeast.eu/>

State to take advantage of the bioeconomy expertise learning curve. Existing policy support project models are considered by countries to be insufficient to be able capture such a complexity of needs at national level. Future plans for the BE-PSF should consider new and flexible policy support instruments to cover all capacity building needs for the policy makers and stakeholders alike.

It also equally true that bioeconomy is very specific to each country, therefore there should be individual approaches used when developing specific policy activities tailored to each country. To build a sound bioeconomy approach at national level, the BE-PSF should support Member States to organise the active participation of all responsible national ministries as well as stakeholders and the society.

Regardless whether a country has a strategy or not, there are areas where further knowledge and actions are needed in order to progress towards sustainable and circular economy in Europe and, thereby, advance the bioeconomy. Such knowledge will help to clarify the role of bioeconomy in responding to even bigger societal challenges, like: SDGs, decarbonisation, clean and healthy planet for Europe. During these above mentioned workshops after a prioritization process, the participants from the different Member States chose four long-term strategic areas where further support, knowledge and solutions are needed to advance on bioeconomy policy making:

1. Sustainable food systems in the bioeconomy
2. Decarbonisation through sustainable use and mobilisation of biomass for food and non-food uses
3. Using bioeconomy to generate growth and jobs
4. Adaptation to climate change through bioeconomy solutions

These areas could serve as common ground for the development of Mutual Learning Exercises (MLE). The aim would be to involve those countries, which already have and those, which do not yet have a bioeconomy strategy and action plan, since all of them need policy support. SCAR BSW and BIOEAST, together with the EC, can play an important role in further scoping these themes to be used in a Policy Support Facility.

The most important aspect of the policy support stems from the complex inter-sectorial feature of the bioeconomy. As soon as the definition of the concept is wrongly set, or it is just partially set (which is often the case when not all the ministries are involved in the strategy building) the miss conception and miss understanding prevails. Hence, we see the need for a cross-sectorial Mutual Learning Exercise to be set in each country using the mother tongue of the respective country.

In general, there is a prerequisite to create a strong policy framework at national level to start the complex system thinking. The pre-conditions required to pave the way for such a policy framework are:

1. To explain concepts and terminology: linking and engaging the different sectors and ministries. More effort is needed to explain concepts and terminology like bioeconomy, green economy, blue economy, circular economy. A key pre-condition for building a policy framework is to achieve a common understanding, definition and ambition of the sustainable and circular bioeconomy within each country at national level.
2. To keep the pressure from the EU will help start-off the process of national strategies: the institutinal request could be a strong driving force in the BIOEAST countries.
3. To set evidence base for policy makers, who are willing to support the bioeconomy, but only if they have evidence on the needs and its impacts: national examples should be brought up, or macro-regional good practices, evidence based practices. The political level responsibility gives the assurance for the startegy and action plan building.
4. To frame an overarching understanding for sustainable and circular economy at national level, which could prevail the regional/local bioeconomy development. Some countries, where bioeconomy is a regional competence, have regional strategies and interests in the bioeconomy. This might complicate the set-up of a common policy framework.

## Overview of the state of play in preparation of the national bioeconomy strategies in the countries

The Member States are in different stages of preparedness to prepare a national bioeconomy strategy. An overview has highlighted that a certain level of awareness exists on the context, however, this is not horizontally homogenous within the structures of the public administration or throughout the various stakeholder groups. Highlights of the self-assessment done by country representatives on the elements readily available to construct a bioeconomy strategy show that:

1. **Food is generally the central sector relevant to the bioeconomy**, while other sectors are emerging as becoming more and more important for bioeconomy.
2. Actions need to be further defined to initiate and further develop **cross-sectoral interactions between agriculture and non-food sectors**.
3. **Cooperation across institutions and governments** is often mentioned as useful, but mostly not operational yet. Responsible bodies have their own agenda or mandate. Countries are ready to learn from each other how to get a coherent view on the scope of bioeconomy.
4. **The administrative capacity within policy making structures has to improve**. There is a need to help ministries to raise awareness and knowledge of the bioeconomy among stakeholders and the society.
5. Scattered elements of bioeconomy strategies exist. **Steps have to be made towards development of a fully coherent national bioeconomy strategy**.
6. **Education and training need to be integrated in the strategy**. Mutual Learning Exercises policy instruments to create opportunities for jobs and growth and to develop specific skills are likely to play a very important role.
7. **Confusion persists on the overlaps between circular economy and bioeconomy** - countries have developed different views.

### 1.1 What are the problems to overcome?

The policy ecosystem linked to bioeconomy is complex in all EU countries. Member States have elaborated several strategic documents which have an impact or a link with the bioeconomy strategy. To mention only some, they refer to: climate change; green economy; energy; smart specialisation; circular economy; etc on top of those sectorial and specifically required by the country legislation or custom (research and innovation; agriculture; environment; etc.). Hence, countries often find it difficult to identify and describe the scope and clearly define the respective interactions, overlaps and/or synergies for the bioeconomy strategy. Political support for the development of the bioeconomy strategy is key in overcoming this complexity. The BE-PSF should make a contribution in clarifying interactions, overlaps and synergies.

Research projects and evaluations have an important role in setting the scene and stimulating the discussion. However, countries often consider that the data and information readily available at this stage does not allow for a sound and efficient policy making process. A bigger effort is requested though the BE-PSF to produce more knowledge and solutions at EU, regional, country and local level.

Stakeholder platforms and initiatives have the role to mobilise ideas and to create a specific political momentum that allows constructive dialog for the bottom-up construction of the various bioeconomy strategy elements. Countries need to be further supported through the BE-PSF in exploring solutions to stimulate and organise bioeconomy cluster formation as well as development of new, improved and more sustainable value chains.

However, for the bioeconomy strategy there is also a top-down component, related to target setting and political commitments of the country within EU or global processes, including work with the SDGs. Ensuring the right balance is key in keeping stakeholders mobilised, while the action of the strategy is set to deliver benefits for the entire society.

Representatives from the countries participating in this series of three workshops made a self assessment of the current situation and potential ways forward for bioeconomy strategies in their countries. These country presentations can be found on the websites of BIOEAST at <http://www.bioeast.eu/documents> and SCAR SWG BSW at <https://www.scar-swg-sbgb.eu/documents>.

Macro-regional initiatives (e.g. BIOEAST) are helping with the coordination at political level and facilitate exchange of information, knowledge and expertise as well as coordination of efforts to advance in building a bioeconomy for Europe. Their support and continuous engagement in dialog, will allow the establishment of a two-way communication channel that will likely facilitate policy development and implementation.

## Building political momentum and setting ambitions for bioeconomy strategies

Countries that have already developed a national bioeconomy strategy have highlighted a series of driving factors that help embarking on the pathway towards a national bioeconomy strategy. Such driving factors provide the political motivation to act and create an enabling environment for a constructive discussion. Such political motivations and driving factors are:

- ✓ A **common vision and mission** on the scope of the bioeconomy is essential.
- ✓ A strategy must be followed with an **action plan** with concrete activities.
- ✓ **Communication of** the bioeconomy strategy to the public and to relevant organisations is necessary.
- ✓ **Sharing success stories and raising awareness** are key during both in development process and the implementation stage of national strategies.
- ✓ **Linking national bioeconomy strategy to global challenges**, climate change problems, SDGs etc provides further motivation to stakeholders.
- ✓ There need to be **people and institutions to take the lead**.
- ✓ Creating a good **balance between bottom-up and top-down** engagement will help the process.
- ✓ **Create synergies**: inter-ministerial collaboration; cross-regional collaborations; cross-sectoral collaborations; stakeholder associations; NGOs.
- ✓ Research and innovation, and centres of expertise will **strengthen the impacts** of the bioeconomy.
- ✓ There are **good examples** of clusters which strengthen the bioeconomy.

### 1.2 Setting the scene

Platforms and inter-ministerial working groups are the preferred pathways to starting-off the process of building a bioeconomy strategy. Needing a transversal approach, bioeconomy will require inter-ministerial cooperation, hence there is a need to disseminate lessons learned and examples of good practice on how to organise such collaborations. A BE-PSF should play an important role in the dissemination.

Given the complexity of the bioeconomy, identification and quantification of costs and benefits is often very difficult. Developing common methodologies through a BE-PSF, for the evaluation of socio-economic benefits of bioeconomy, and their respective impact on growth and jobs will provide the necessary arguments for the development of the bioeconomy strategy.

Financing change in the economy, shifting patterns towards a circular bioeconomy needs considerable investment. Hence, to create momentum countries need support through the BE-PSF for identification of such financial resources, the necessary mechanisms for their implementation and ensuring the right balance between regulatory approaches and incentives.

From the EU institutions, countries expect much more guidance and facilitation through a BE-PSF to ensure coordination and harmonisation of approaches with the policy objectives foreseen in the revised EU strategy: "A sustainable bioeconomy for Europe". Structures like the SCAR BSW group could play an important role in developing and delivering such guidance.

The biggest challenge countries face in addressing bioeconomy relates to enabling sectorial authorities to interact/negotiate and reach a compromise on their respective political agendas, within the bigger umbrella of the bioeconomy. Overcoming this hurdle will help ensuring interconnections, inter-sectorial collaborations and synergies which ultimately result in delivering the bioeconomy model chosen.

One crucial element is about leveraging the implementation of the bioeconomy through sectorial policies at EU and national level. With the CAP requesting countries to make the link between agricultural policy and bioeconomy, there is a lot of potential to progress into incorporating bioeconomy principles in other sectorial policies at EU and national level.

To accelerate the bioeconomy strategy development process, the structures designated to develop the bioeconomy approach for the country, need to be empowered to include bioeconomy on the public agenda at the appropriate decision making level. Such empowerment can be generated internally through mobilisation of stakeholders and policy making structures or externally, with the help and support of EU institutions; EU forums (e.g. SCAR BSW; ERDN; EBP) and/or initiatives and platforms (e.g. BIOEAST)

### **1.3 The identified indicative support measures**

Countries without bioeconomy strategies have identified the following actions which are likely to advance the strategy development process. These are potential areas of action for a BE-PSF:

1. Support to identify the optimal **inter-ministerial set-up** within countries to manage bioeconomy
2. **External facilitators or mentors** to guide the process towards bioeconomy strategy and action plans; creating **thematic working groups**
3. **Understanding the concept of the bioeconomy** is key to define ambition and targets. There is need to clarify interations/overlaps between circularity (re-use, reduce, refuse, redesign, recycle, etc) and the bioeconomy
4. Political momentum can be built with **evidence on the role of the bioeconomy** in creating growth.
5. Guidance and best practice on **aligning different policies**, e.g. with **new Comon Agricultural Policy (CAP)** for which MS have to develop own **Startegic Plans** and which has more focus on research and innovation, environmental measures and a specific measure on bioeconomy.

6. There is a **need for a monitoring and analysis framework** to identify feasible solutions for national and regional value chains and evaluate the impacts of action plans. Also, a set of **measurable indicators** for benchmarking competitiveness of new value chains is needed.
7. **Stimulating collaboration at different levels** has to be achieved, e.g. across sectors, across regions, across stakeholders. Bioeconomy clusters can be stimulated through co-creating and exchange of expertise; collecting of best practices in order to develop new, viable business cases.

## Short-term, operational policy support needs

One efficient way to overcome various barriers in organising the process of building a national strategy is by knowledge exchange and examples delivered through peer learning (e.g. Mutual Learning Exercise). **Some of the concerns countries have in developing the strategic approach** (see scoping list below), are related to the way the process is organised; other concerns are related to ensuring the technical assistance and assessment capabilities needed and last, but not least, capabilities for the elaboration of the strategic documents.



The bioeconomy is a complex topic, with many challenges, hence, mutual learning exercises can be a useful tool to ensure knowledge and know-how transfer. However, some topics identified in the scoping list above, are difficult to implement with existing DG RTD policy support instrument. **Therefore, it is recommended that a BE-PSF has to develop specific instruments and funding must be identified to help advancing the process.**

A number of operational needs have to be addressed in a more direct manner and tailored to the specific need in the countries. Direct policy support through a BE-PSF is needed to develop **studies, evaluations and assessments** on the impact of the various bioeconomy development scenarios; these will create the basis for sound policy making. Data collection on bioeconomy (biomass availability, sustainability indicators, value chains, etc.) is also considered a major hurdle in advancing policy decision.

Providing support through a BE-PSF to organise **workshops**, to include demonstrative examples of bioeconomy implementation as well as support through **external facilitators** will help to guide policy makers and stakeholders towards building bioeconomy strategies.

Developing an **information system dedicated to bioeconomy** and synergetic policies (CAP, RDP, LIFE, Horizon, etc.) with relevant information for entrepreneurs (including farmers, processors and scientists) will mobilise stakeholders to act and will be a valuable resource for training on bioeconomy support. Support is needed to create processes at national level to develop mutual trust and a common vision among stakeholders, which will enable them to coordinate and cooperate.

A BE-PSF should provide **technical assistance** and instruments for **administrative capacity building**, which are key in rolling out the process. Policy support instruments and funding is needed to make available such support to countries. Additionally, it would prove to be beneficial to create a European directory of mentoring and technical expertise, as resource for the countries.

**Training opportunities** as well as establishment by a BE-PSF of **technical working groups** at European level can provide an important contribution to developing a European approach to bioeconomy. Examples of pilot approaches, best practices and successful clusters, are resources that could prove essential to shape national strategies.

Development of a **harmonised monitoring and evaluation framework** for bioeconomy at European level, will help countries monitor their progress and benchmark against European objectives and targets.

## Long-term, strategic areas

To advance the bioeconomy, regardless whether a country has a strategy or not, there are areas/topics where further knowledge and actions are needed in order to progress towards building the bioeconomy in Europe. Such knowledge will help clarify the role of bioeconomy in responding to even bigger societal challenges, like SDGs, decarbonisation, clean planet or a protein plan for Europe. SCAR BSW and BIOEAST can play an important role in further scoping these themes to be used in Horizon Europe programming exercise.

A number of priority themes were selected based on existing EU strategies and programming documents:

- Sustainable food systems in the bioeconomy
- Adaptation to climate change through bioeconomy solutions
- Using bioeconomy to generate growth and jobs

- Decarbonisation through sustainable use and mobilisation of biomass for food and non-food uses
- Responsible and balanced value chains
- Changes in consumption and waste management in bioeconomy
- Models of circularity in bioeconomy
- Social innovation and new cooperation models for bio-based value chains
- Supporting bioeconomy regions and initiatives
- Integrating protein plan objectives into bioeconomy approach

Countries have prioritised on this list and selected four major thematic areas, to further specify the challenges and expectations they have in these areas.

### Priority theme 1: Sustainable food systems in the bioeconomy

| Challenges   | Expected outcomes   |
|--|---|
| Political commitment for a integrated policy                               | Coherent policy framework   |
| Get food & agriculture integrated as main parts of a bioeconomy strategy   | Better exchange and deployment of knowledge   |
| Better waste management; understanding sidestream, hotspots in foodsystems | A monitoring system. Less waste/losses along food value chain.  |
| Consumer awareness   | Integrated communication and education actions to explain importance of sustainable food systems.   |
| Circularity  | New value chains with less food waste and losses (harvest, processing, transport); use of bioeconomy clusters. Incentives for research & innovation |

### Priority theme 2: Decarbonisation through sustainable use and mobilisation of biomass for food and non-food uses

| Challenges  | Expected outcomes  |
|---|--|
| Logistics   | Small scale use of biomass; Local use of biomass                             |
| Increase economic viability                                       | Increased number of biorefineries  |
| Technical and human resources                                     | Better equipment and trained manpower  |
| From linear to circular use of biomass                            | Cascading use of biomass   |
| Better waste management   | Increased waste usage for biobased products                                  |
| Bioenergy position is better than others, i.e. biobased products  | Increased role of other value chains; imposed supportive economic conditions |
| Governance  | More cooperation   |
| Low motivation to use biomass for contributing to decarbonisation | Linkage to new CAP; Increased knowledge                                      |

### Priority theme 3: Using bioeconomy to generate growth and jobs

| Challenges   | Expected outcomes  |
|--|--|
| More knowledge on current status on growth & jobs in biobased sectors                  | A data and analysis framework for identifying weaknesses and potentials of biobased sectors                                |
| Insight needed in impact of the bioeconomy on jobs & growth                            | Using models and methodologies for evaluation the impacts of the bioeconomy  |
| Getting new jobs in primary production and bio-based related industry                  | New jobs profiles descriptions and developed new education and skills  |
| Insight in the bioeconomy market needs   | Established regional and EU wide bioeconomy markets; Overview of incentives to induce new industrial links (i.e. clusters) |
| Incentives for more cooperation cross-industries and cross-sectors in the values chain | Advisory body for different industrial organisations, including primary producers and processors                           |

### Priority theme 4: Adaptation to climate change through bioeconomy solutions

| Challenges  | Expected outcomes   |
|---|---|
| Collecting more and better data on water, waste, heatpumps, animal wellbeing, breeding temperature, draught stress. Mapping of climate related indicators in agriculture. | Advisory services on e.g. type of investments; Governments motivates farmers and others in the value chain to re-invest in climate saving measures (support measures, subsidies). |
| Practical set of measures and solutions for farmers and related industries for adapting to climate change.  | Better waste management, new biobased value chains. Insight in cost-efficient measures.   |
| Get better insight in climate impacts, water stress, biodiversity due to using different technologies   | Data and analysis framework for monitoring and impact assessments in countries and regions. Implementation schemes, benchmarks.   |
| More climate related pilot projects in regions (measures for climate change innovations in new CAP)   | Better use and linkage of R&D and innovation to climate change adaptations.   |
| Energy management solutions in livestock and crop farming   | Improved waste management.  |

# The conditions for policy support to accelerate bioeconomy strategy deployment in countries

The majority of the policy support needs are also valid for countries that already have a bioeconomy strategy. Some countries are in a process of developing an Action Plan following the successful development of a bioeconomy strategy. In general, there is a need to create a strong policy framework. Pre-conditions required to pave the way for such a policy framework are summarised in the figure below:

