

Terms of Reference Format for SCAR Groups

NAME OF GROUP

Bioeconomy Strategic Working Group, BSW

SHORT DESCRIPTION OF GROUP

The SCAR Bioeconomy WG started working in 2017. While the first mandate focused on research and fact finding, this was continued with a second mandate, which started in June 2019. The second mandate had a stronger focus on policy and strategy development support. The upcoming 3rd mandate of the SCAR Bioeconomy Strategic Working group (SCAR BSWG) is marked by exceptional challenges that inevitably direct the course of development of the European bioeconomy including its agricultural, blue and forestry-based flavours. Major **supply chain disruptions** brought by global health (Covid-19) and geopolitical crises (Russian attack of Ukraine and its repercussions) only add to the long-term challenges brought by the **climate change and loss of biodiversity**. These changes have drastically increased the importance of security of supply to ensure the functionality of our societies in Europe. Improving the security of supply, especially in terms of raw materials and resources for food, feed, materials and energy needs both immediate actions and long-term planning. Accelerating **transition to the European bioeconomy from niche to norm** is a key Research, Development and Innovation (RDI) target for the coming years.

New RDI actions are needed to optimize nutrient cycles, to make resource-efficient use of biomass (improvements needed in particular in the case of underutilized side-streams), and to ensure transition from linear to circular bioeconomy, fully respecting the ecological and planetary boundaries. In order to ensure a systemic approach and address key social challenges, RDI actions should address the following **cross-cutting issues**:

- Promotion of cross-sectoral cooperation along (ecologically sound, technologically advanced and economically viable) bio-based value chains, respecting ecosystem boundaries and preventing competing use of biomass (especially when potentially affecting the resilience of food systems);
- Development of transferable and scalable circular business models to trigger new innovative and sustainable bio-based products, processes and consumption patterns;
- Meeting all aspects of a sustainable bioeconomy, such as social and socio-economic (i.e. food supply security, consumer demand, primary sector involvement, regional development, etc.), environmental (i.e. biodiversity) and ecological-territorial (i.e. managing land use trade-offs);
- Addressing the burning challenge of energy transition by closing energy loops territorially and by diversifying energy sources);
- Better valorization of scientific knowledge and adoption of bio-based innovations, including their monitoring, assessment, impact analysis and evaluation.

Within SCAR various Working Groups and Task Forces concentrate on specific sectorial challenges related to this transformative process and define RDI measures to tackle them. Within the SCAR BSW the focus will be on **applying a systemic approach and cross-cutting themes**, which are of common interest to the various SCAR Groups.

The role of Science and Research is to deliver the (technological, organisational) solutions to respond these challenges and to keep our societies functional. SCAR BSW will contribute to this by identifying the

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RDI gaps for Science and Research to focus on in the future. The following **Focus Areas** and issues have already been identified and will be further defined in the course of the new mandate:

- Circular and bio-based value chains
- Ecosystem boundaries, security of supply and competing biomass uses
- Unveiling the demand side.

The added value of the Bioeconomy lies in its interdisciplinary and holistic perspective. There is a strong need for a **strategic RDI discussion on bioeconomy between Member States (MS), Associated Countries (AC) and the European Commission (EC) on future Bioeconomy RDI targets and implications of the further development of a sustainable bioeconomy.**

The BSW has the holistic view over the sectors. The main goal is in the forward-looking bioeconomy transition based on RDI solutions needed in tight collaboration e.g. with SCAR foresight, sectoral SCARs (such as SCAR Forest and Fish), CBE JU and other networks. The BSW will **provide 2 position papers on co-created RDI recommendations to advice the EU RDI policy on bioeconomy.**

1 Organisation

1.1 Coordinator

The BSW is coordinated by three equally responsible co-chairs:

Johanna Kohl

Martin Behrens

Luka Juvančič

1.2 Timeline

Date for Terms of Reference to be approved by SCAR Plenary: 15.12.2022

Duration of the next mandate: 2 years

1.3 Internal organisation

The group will be steered by three co-chairs, who will be responsible for the overall management, organise general meetings of the group and be the primary contact for the SCAR Secretariat, other SCAR Groups, the SCAR Thematic Support Team and external cooperation partners. The BSW will closely work with the EC services (in particular DG RTD, but also DG AGRI and JRC) and national contact points. The working mode will be 90% virtually. Physical meetings shall only be organised back-to-back with main bioeconomy events so that broad participation of the members can be ensured. At least one of the co-chairs will be present at the major bioeconomy events organised in Brussels. Additional activities may include workshops (jointly organised with other initiatives or SCAR groups). For every event a small taskforce will be formed to prepare the meeting and to translate the outcomes into deliverables.

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1.4 Participants

Membership in the BSW is open to all SCAR participating countries. MS active during the previous mandates will be asked to continue their participation. Special attention will be given to attract more MS, especially from the EU-13, by asking for their support in the SCAR Plenary. Moreover, the BIOEAST initiative might be able to support and motivate countries to join the BSW. In addition, the work of the group could be presented to the Programme Committee members of the Horizon Europe Cluster 6, sharing the message that an active participation from MS/AC is desirable and highly welcome.

MS/AC expected to join based on their participation and expressed interests thus far: AT, SI, BE, DE, DK, EE, EL, ES, FI, FR, HR, HU, IE, IT, LT, LU, LV, NL, NO, PL, RO, SE, SK, HR, TR and UK.

The national SCAR delegates of each participating MS should inform, in writing, the SCAR BSW co-chairs and the SCAR secretariat of their appointed and mandated national representative(s) and any changes that may occur during the group's lifetime.

DG RTD.C2 is the main EC contact for SCAR BSW. DG AGRI and the JRC will be invited to participate in the meetings of the group. Other DGs, the Chair of CBE JU State Representatives Group or other initiatives may be invited to participate in meetings when deemed relevant.

1.4 Liaison with sectorial SCAR SWGs and external cooperation

Considering the cross-sectorial nature of the BSW we will seek regular exchange with other SCAR Groups in order to cooperate on cross-cutting and trans-sectorial RDI themes, to ensure synergies and avoid overlaps. Bilateral workshops with these groups will be organised in order to develop the 2 RDI position papers. Furthermore, the SWG will ensure constant communication with external entities (e.g. HE Cluster 6; CBE JU working groups/committees). The purpose of these activities is to exchange information but also to coordinate activities. A work plan including the planned exchanges with other groups will be made annually and presented to the SCAR Steering Group for discussion and approval.

1.5 Resources

Resources from MS are basically all in kind (time of co-chairs and taskforce members, of all other members). Additional resources should be sought from the SCAR Technical Support Group to assist with the organisation of workshops, facilitation of special working formats, drafting of deliverables (especially when more complex inputs need to be processed) and allow for the reimbursement of external experts, as well as for commissioning of desk studies where appropriate.

2 Ambition, work-plan, outcome

2.1 Rationale

According to the EU Bioeconomy strategy, 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. It includes and interlinks: land and marine ecosystems and the services they provide; all primary production sectors that use and produce biological resources (agriculture, forestry, fisheries and aquaculture); and all economic and industrial sectors that use biological resources and

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processes to produce food, feed, bio-based products, energy and services”¹. Some Member States of the EU have a broader view, in which the Bioeconomy also encompasses medical applications or even more generally all economic activities that deal with living or non-living biological resources (i.e. biomass as well as information gathered from natural systems, e.g. genetic code, design principles, regulatory mechanisms).

The Bioeconomy encompasses various scientific, technological and policy areas as described in the EU Bioeconomy strategy. While other SCAR working groups apply a sectorial approach to specific area of the bioeconomy, **this dedicated strategic working group aims to apply a holistic perspective and will therefore focus on cross-cutting schemes and a systemic approach in the area of R&I**. The BSW has the ambition to become a nexus and be closely connected with ongoing policy discussions and to provide RDI recommendations aligned with the policy needs for RDI expertise. In this effect, BSW deliverables should serve the SCAR Plenary, the European Commission and Member States.

The work of the third mandate will follow the general evolution of the definitions and the implementation pathways of the different Bioeconomy strategies since 2012, notably the 2018 update of the European Bioeconomy Strategy and Action Plan, and build upon the activities, results and deliverables from the first two mandates. Moreover, other relevant EU and international strategies, initiatives and developments, such as the United Nation’s Sustainable Development Goals (SDGs)², EC’s vision for a sustainable³ and climate-neutral⁴ development (see reflection paper ‘Towards a sustainable Europe by 2030’ and ‘A Clean Planet for all - A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy’) and the Circular Economy Package⁵ define the scope of the BSWGs future actions. Foresight documents, such as the Foresight Scenarios for the EU Bioeconomy in 2050⁶, SCAR foresight report⁷, and BIOEAST Foresight Report⁸ will provide inspiration and input for the group’s future work.

The BSW will continue to collaborate with the EU Commission’s services i.e. mainly DG RTD, DG AGRI and the JRC. BSW will seek to actively engage in the activities of the partnership Circular Bio-based Europe Joint undertaking. It will liaise with other thematically relevant partnerships (e.g. Bio-Based Industries Consortium) and platforms (e.g. World Bioeconomy Forum). The BSW aims to open up a dialogue with this range of partners in order to discuss and align positions on R&I needs, and strives to create synergies and to disseminate results both from the BSW and its partners.

Areas of RDI interest

The BSW aims to focus on RDI gaps of systemic and cross-cutting nature within the European bioeconomy.

¹ https://research-and-innovation.ec.europa.eu/research-area/environment/bioeconomy/bioeconomy-strategy_en

² <https://sustainabledevelopment.un.org/?menu=1300>

³ https://ec.europa.eu/commission/publications/reflection-paper-towards-sustainable-europe-2030_en

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0773>

⁵ https://ec.europa.eu/environment/circular-economy/index_en.htm

⁶ <https://publications.jrc.ec.europa.eu/repository/handle/JRC123532>

⁷ <https://scar-europe.org/images/FORESIGHT/FINAL-REPORT-5th-SCAR-Foresight-Exercise.pdf>

⁸ https://bioeast.eu/wp-content/uploads/2021/10/BIOeast-Report-2021_FINAL_compressed-1.pdf

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The main focus areas are summarised in the following section. The group's **focus can vary during the mandate. Similarly, it can be widened as well**, allowing it to **adapt to new developments and strategic aims**.

I. Circular and bio-based value chains

*This focus will cover R&I gaps related to **regional and societal perspectives**, the production of biomass and **supply of innovative bio-based products** and services and **factors affecting their growth** and the **stability of supply**. It will further look into **competing uses** of the resource base (agriculture, forestry-based and marine) and analyse **sustainable transition paths** to a bioeconomy. Furthermore, this area will cover questions related to **sustainable assessment** and **risk analysis**.*

II. Ecosystem boundaries, security of supply and competing use of biomass

*This area will take regard of R&I gaps relevant for the **current energy and food related crisis**. It will tackle **measures to improve and support the security of supply chains** and new products and services to improve the security of supply. It will further look into how to **diversify (bio-)energy sources to provide resilience and security to energy systems** in the light of **competing uses of biomass and land-use**.*

III. Unveiling the demand-side

*Under this focus **consumption patterns** and their **influence on biomass production, management systems** and **business models** will be covered. The question of introducing the **notion of moderate consumption** will be covered. Furthermore, issues related to **capacity building** along the entire value chain and the **identification of policy needs to help better understand the demand-side** should be investigated.*

2.2 Planned activities and expected results and outputs

The BSW will organise its scope and activities around **three main lines of action**. The following basic elements and means of implementation serve as a **starting point for the work of the group**. The scope and content of this **broad framework** is not static but will be adjusted and /or **expanded over time** and the additional themes will translate into topics for the workplan. Activities listed above can partly only be implemented in cooperation with partners mentioned in Action line I and depending on the availability of additional resources. The final planning will be made in annual work plans. **Over its lifetime the BSW will continuously evaluate the current situation and respond in a flexible way to altered requirements, conditions and/or political backgrounds** by adjusting the topics and/or widening of the lines of action.

The table in the Appendix contains a first draft for a work plan, with the topics, planned activities and expected timing, deliverables and target audiences. This should be considered a draft work plan which will be adapted according to the specific needs of the actively involved MS/AC. The BSW will give in the work plan special attention to what kind of deliverables is needed. We strive to maximize the impact of the deliverables by giving attention to timing and the tailoring to the target audiences.

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I. Knowledge collection and liaison with other groups

In **action line I**, **knowledge** from different sources, including best practices from MS/AC and results from discussions amongst the participating group members, **will be collated**. Along the four focus areas the Group will collect knowledge regarding the current situation of specific RDI challenges identified by the BSW and during meetings with external entities. Specific perspectives of the Member States as well as social and regional perspectives will be assembled.

Specific RDI themes will be further discussed with other SCAR WGs and external entities to strengthen the cross-sectorial and holistic perspective and ensure alignment between stakeholders, sectors and policy areas. In co-creative exercises specific RDI gaps will be identified. Means and instruments to address these gaps will be discussed.

Given its broad and inter-sectoral focus on the bioeconomy, the BSW can act as a **nexus between different actions and constituencies**. The networking in itself is already an added value of the group's activity, as it will allow for mutual learning and the **creation of synergies and alignment between different stakeholders and (policy) areas**. Moreover, it brings together relevant parties for the exchange of knowledge, positions and for strategic discussions.

The BSW will seek to network, collaborate and exchange with a variety of partners (depending on the area addressed in the different actions). See appendix II for a list of entities.

II. Development of RDI recommendations

In **action line II** the **collected knowledge will be transformed into 2 RDI recommendation papers** which shall inform DG RTD and other commission services, SCAR and MS about the identified RDI gaps as well as possible RDI measures to address them. The recommendations will be aligned with structure and timing of the Horizon Europe programming.

III. Target specific dissemination of results

Action line III provides the means of dissemination for the output of action lines I and II specifically **adapted to the needs of various stakeholders**. The BSW will **support the development of evidence-based policies linked to the bioeconomy** by contributing to the programming of research. Support will be given through provision of tools, advice and recommendations (e.g. in the form of technical notes and policy briefs) based on the knowledge gathered under action line I or collected through direct collaboration.

2.3 Risk and risk mitigation

- Lack of resources in some MS/AC for a more active participation.
 - o Mitigation: use funding possibilities from a SCAR Bioeconomy Support Team or a similar type of support measure
- Small group of MS/AC being active involved.
 - o Mitigation: actively search for new members and motivate them to participate (e.g. in collaboration with BIOEAST Initiative)

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- Urgent policy matters not foreseen during the planning of the mandate necessitate a diversion from the work plan.
 - o Mitigation: Group is flexible and can react to upcoming policy matters. Adjustments of the (draft) work plan during the mandate are expected and will be discussed with the group members. If necessary, major changes will be discussed with the SCAR Steering Group and/or the Plenary.

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Appendix 1: Draft Work Plan 2023

Draft workplan for 2023, with planned activities and deliverables, version November 2022. Additional activities for 2023 might be added, depending for instance on possible requested input from the BSW to support ongoing policy process with RDI advice. This workplan can be adjusted to react on new developments. Activities for the rest of the group's lifetime will be defined on a yearly basis.

	December 2022 (still under extended 2nd Mandate)	January - April 2023	May - October 2023	November- December 2023
Topic	Terms of Reference and draft workplan	Collection of knowledge under Action line I	Liaison with other SCAR Groups under Action line I	Recommendation on RDI Gaps and Instruments and C&D under Action lines II and III
Objective	Final ToR for third mandate and draft of 2023 workplan approved by SCAR Plenary	Gather information on the current status of RDI challenges related to the 3 focus areas topics	Creation of synergies and alignment between different stakeholders and policy areas; joined descriptions of RDI gaps and related RDI measures to address them	Development of 1 st Recommendation Paper and additional target specific dissemination of results
Activity	Detailed WP for 2023 and task groups with responsible task leaders	Desk Study by BSW, consultation with other SCAR Groups	Organisation of co-creation workshops with SCAR Groups and external entities on specific cross-cutting RDI issues	Development of RDI Recommendations within the BSW; C&D of results
Deliverables	Final ToR and draft workplan (with task groups)	Collection of identified RDI challenges and related gaps as well as possible RDI measures to address them	Workshop reports	Recommendation Paper; other target group specific C&D formats (i.e. policy briefs; factsheets, etc.)
Target groups	BSW, SCAR Plenary	BSW and Member States	SCAR Working Groups; CBE JU; other	SCAR Plenary, Member States; HE Cluster 6 programming committees and CBE JU programming working groups; other

Appendix II: List of Groups and external entities relevant for Action line I

- the European Commission, primarily DG RTD.C2 as main contact and DG AGRI;
- Thematically relevant SCAR working groups, such as SCAR Food systems, SCAR Forest, SCAR Fish and SCAR AKIS;
- The SCAR Foresight Expert Group, with the aim to provide bridges and exploring synergies between the forward-looking Foresight approach and the BSW strategic vision;
- The European Bioeconomy Policy Forum (EBPF), provides a room where less formal discussions can parallel and support the decisions that will be taken by the Forum;
- EC's Joint Research Centre and the Knowledge Centre for Bioeconomy, contributing to the enhancement of the knowledge base for policy-making on Bioeconomy;
- The Horizon Europe Programme Committee for Cluster 6 'Food, Bioeconomy, Natural Resources, Agriculture and Environment' and relevant Mission boards in order to shape the content of the cluster and the missions;
- European Partnerships and JPIs active in the area of the Bioeconomy;
- The BIOEAST Initiative, with the aim to support Central and Eastern European countries and increase their participation in European programmes and initiatives;
- The International Bioeconomy Forum (in collaboration with the "SCAR Sherpas" already engaged in this relationship) to support a strategic approach to the BE development on a global level;
- Macro-regional-based coordination initiatives (e.g. BONUS, PRIMA, INTERREG programmes)
- The European Network for Rural Development (ENRD);
- The Circular Bio-based Europe Joint Undertaking (CBE JU) under Horizon Europe, aiming to identify (joint) actions to contribute to the implementation of the Action Plan of the EU Bioeconomy Strategy, to increase the participation of less involved countries in CBE JU and/or the BSW and to comment the CBE JU work programmes;
- FOOD2030 initiative and Fit4Food project, with the aim to enrich the food-system visions developed by these initiatives with BE-related elements;
- The '4 per 1000' Initiative, with the aim of linking and supporting activities related to increasing the soil organic matter content and carbon sequestration;
- The FAO, which is active in addressing bioeconomy-related issues, with focus on "food first" bioeconomy and food security. For example the project 'Towards Sustainable Bioeconomy Guidelines' aims at supporting the design of national bioeconomy strategies and could represent an interesting opportunity for knowledge exchange;
- The universities involved in the "European Bioeconomy University" initiative;
- National Bioeconomy discussion fora;
- National representatives of ministries responsible for Bioeconomy.