



The European Commission's Knowledge Centre for Bioeconomy



Bio-based plastics Expert workshop on current state of the art and knowledge gaps

26 June 2025
9.00 -17.00 CET (Including lunch)

Venue: Rue du Commerce 46, 1000 Bruxelles, Belgium
European Commission - DG EMPL
Floor 0 Room 021

Online: [Teams connection](#) only for observers in plenary sessions

Programme

Background

The European Union (EU) supports the reduction of plastic waste and pollution through various policy documents and regulations. In particular, it has defined a policy framework on bio-based, biodegradable, and compostable plastics (COM(2022) 682), as well as a strategy for the development of a circular economy for plastics (COM(2018) 28 final), promoting the increase in recycling and reuse of plastics (Regulation (EU) 2025/40), and targets to reduce single use plastics (Directive (EU) 2019/904). The EU policy could further promote sustainability and innovation within the plastic sector, based on sound scientific evidence. Such evidence is particularly needed to clarify specific issues and challenging aspects inherent to bio-based plastics.

Bio-based plastics offer various benefits, such as reduced greenhouse gas emissions up to 80% compared to traditional plastics, improved biodegradability and renewable biomass sources, such as corn starch, sugarcane, or potato starch.

However, their production is more complex and more expensive compared to fossil-based plastics, it requires limited available biomass feedstocks, competing for land with food crops, with impacts on land use changes and water use. In addition, bio-based plastics can be more difficult to process than traditional plastics, requiring specialised equipment and expertise. These considerations are general and may vary depending on the feedstock and on the production process utilised.

The increasing expectations on bio-based plastics and the opportunity for innovation they bring in the European industrial landscape supported the EC Knowledge Centre for Bioeconomy's decision to enrich its topic portfolio with a new deep dive on this subject, including a knowledge for policy brief and further information material.

The Knowledge Centre for Bioeconomy (KCB) is a European Commission initiative on improved knowledge management for bioeconomy-related policymaking. It aims at developing a common and robust knowledge base for a sustainable and circular bioeconomy.

Description

The workshop will take place in hybrid modality. It will include both presentations and interactive sessions, where the in-presence audience will split in two parallel working groups.

In the morning session, representatives of the European Commission will explain how the European policy is promoting a more sustainable approach to plastics production and consumption and the specific role of bio-based plastics within this framework. Further presentations will focus on the state of play of the bio-based plastic sector and key issues at stake as well as EU-funded research on bio-based plastics. Participants will be invited to take part in working tables to share their views and knowledge on sustainable feedstock, material performance and economic viability, processing technologies, market trends, environmental impacts, innovative applications and end of life solutions.

Expected outcomes

This workshop will gather academics, practitioners and policymakers to discuss the most questioned technical, economic, environmental aspects, in relation to bio-based plastics, the knowledge gaps to be filled to address these issues as well as the most promising uses and application areas. Its outcomes will inform a knowledge for policy brief by the KCB.

9:00-9:15	Registration
PART 1	Chaired by Andrea Camia, EC Knowledge Centre for Bioeconomy, JRC.D.3 - Land Resources and Supply Chain Assessments
9:15-9:30	Welcome address
	Serenella Sala, Head of Unit JRC.D.3 - Land Resources and Supply Chain Assessments Peter Wehrheim, Head of Unit DG RTD B.2 - Bioeconomy & Food Systems
9:30-9:45	EU-funded research on bio-based plastics + Q&A
	Martin Policar, DG RTD B.1 – Green Transitions
9:45-9:55	Introduction to the KCB deep dive study on bio-based plastics
	Maria Teresa Borzacchiello, EC Knowledge Centre for Bioeconomy, JRC.D.3 - Land Resources and Supply Chain Assessments
9:55-10:20	Overview of policy developments on bio-based plastics in EU + Q&A
	Werner Bosmans, DG ENV B.1 - Circular Economy, Sustainable Production & Consumption
10:20-11:10	Bio-based plastics sector and key issues at stake
	Karin Molenveld, Programme Manager Renewable Plastics, Wageningen University Research
11:10-11:30	Break and transition to parallel sessions
PART 2	
11:30-13:00	Parallel sessions
Floor 0/Room 021	1. Working table on <i>material performance and durability vs. costs and economic viability</i> , facilitated by Karin Molenveld, Programme Manager Renewable Plastics, Wageningen University Research
Floor 1/Room A14	2. Working table on <i>feedstock sustainability – land use and resource competition</i> , facilitated by Sarah Mubareka, JRC.D.3 - Land Resources and Supply Chain Assessments
13:00-14:00	Networking lunch
14:00-15:30	Parallel sessions
Floor 1/Room A14	3. Working table on <i>product sustainability – measuring environmental impacts</i> , facilitated by Giulia Listorti, JRC.D.3 - Land Resources and Supply Chain Assessments
Floor 0/Room 021	4. Working table on <i>end-of-life management</i> - challenges and solutions, facilitated by Karin Molenveld, Programme Manager Renewable Plastics, Wageningen University Research
15:30-15:45	Break
15:45-16:45	Groups reporting and plenary discussion
	Group facilitators
16:45-17:00	Conclusions and next steps
	EC Knowledge Centre for Bioeconomy