

Biodegradability of Plastics in the Open Environment

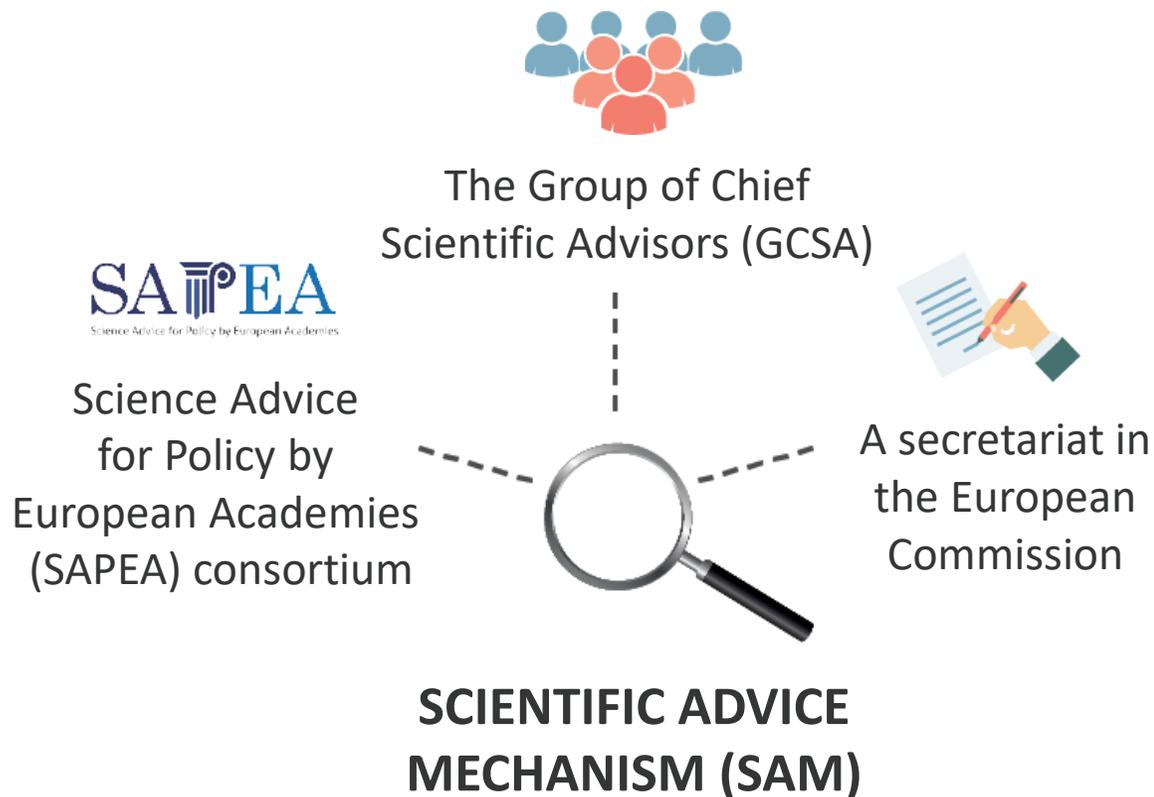


*INDEPENDENT
SCIENTIFIC ADVICE
FOR EU POLICIES*

Prof Nicole Grobert
**Chair of the Group of Chief
Scientific Advisors**

How the Scientific Advice Mechanism works

Version 14/04/2021



Scientific advice for well-informed policy and better regulation



Transparent and as free from bias as possible



Complementary to other scientific advice bodies in and beyond the EU institutions

How the Scientific Advice Mechanism works

Version 14/04/2021



Principles of Scientific Integrity and Transparency of the **Group** of Chief Scientific Advisors

Version 14/04/2021



Members were selected with the help of an Identification Committee composed of independent experts



Members are contractually bound to be impartial



Appointed for a maximum of 5 years



Members must inform the chair of any potential conflict of interest



Members act in their personal capacity, independent of institutional or political interests



Elect its own chair, sets its own agenda and adopts its own rules of procedures.

The Group of Chief Scientific Advisors as of May 2021



Nicole Grobert
Chemistry



Eva Zažímalová
Biochemistry



Éva Kondorosi
Biology



Maarja Kruusmaa
Biorobotics



Alberto Melloni
History



Nebojsa Nakicenovic
Energy Economics

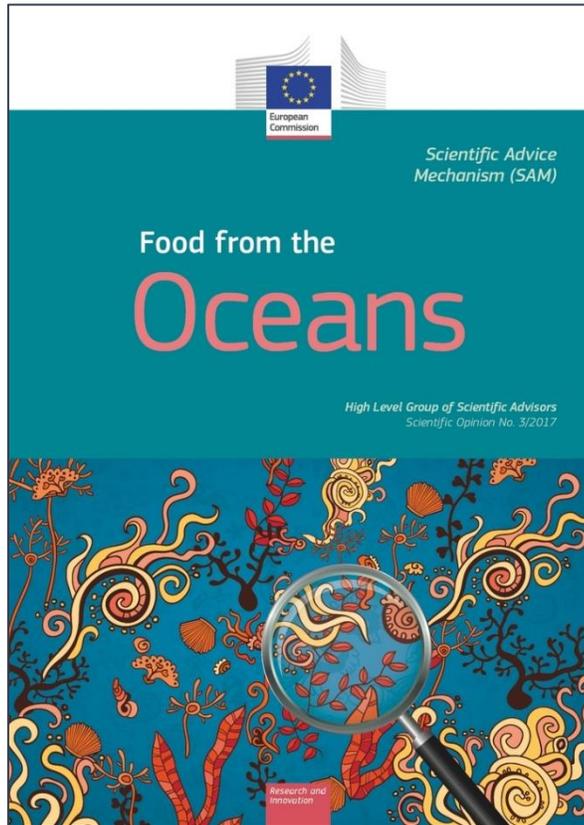


Eric F. Lambin
Geography

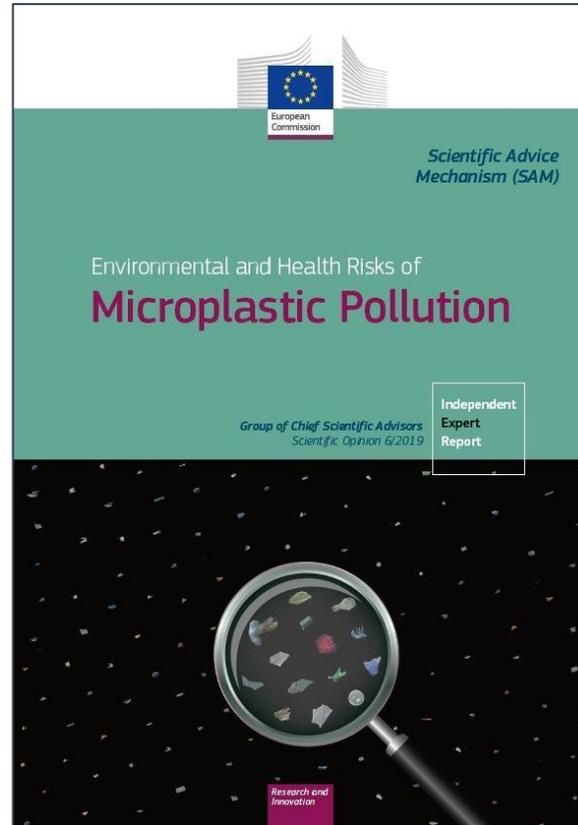
Scientific Advice of the Group from 2016 – present



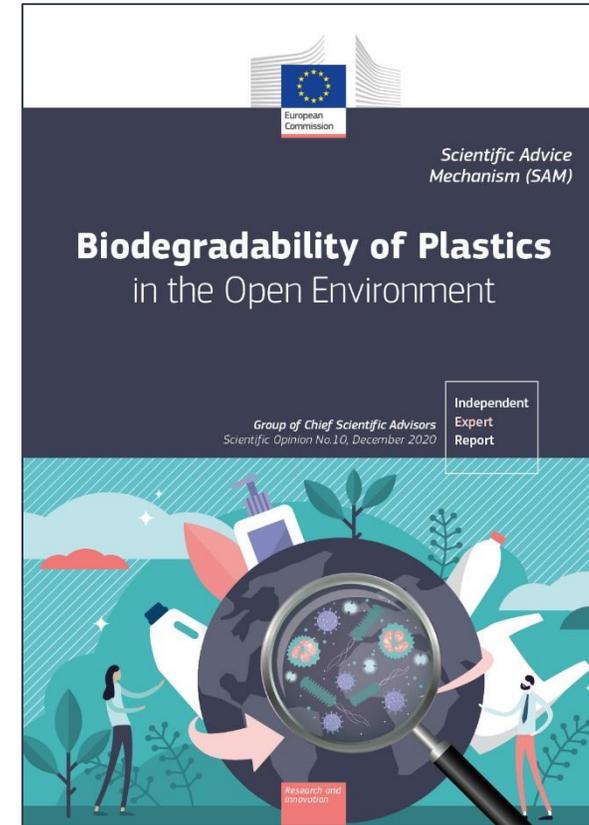
Related Scientific Opinions



November 2017

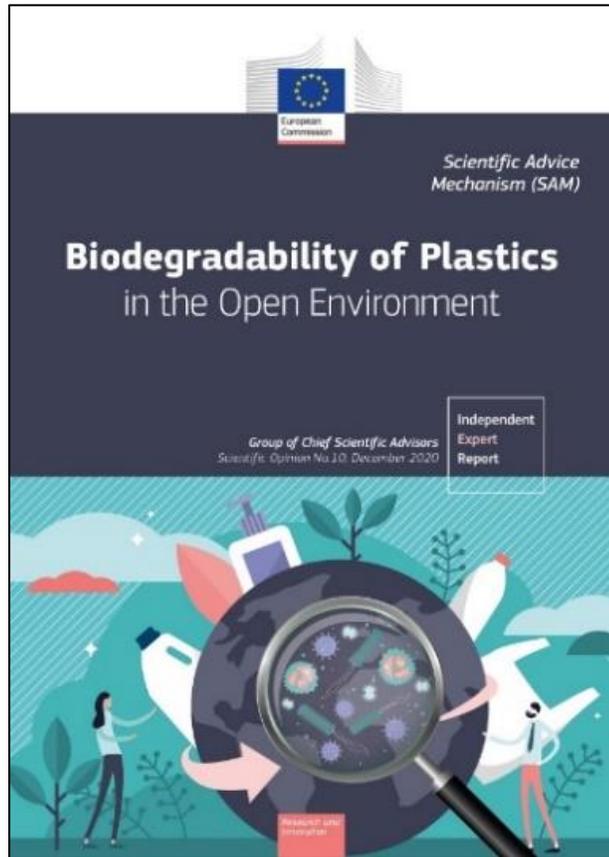


August 2019



December 2020

Scientific Opinion by the Group of Chief Scientific Advisors on Biodegradability of Plastics in the Open Environment (December 2020)



ISSUE:

A growing global use of plastics has led to an increased amount of plastic waste in the environment, polluting and harming land and sea. Biodegradable plastics could be part of the solution to this problem.

SCOPING QUESTION:

From a scientific point-of-view and an end-of-life perspective, and applying to plastics that biodegrade either in the terrestrial, riverine or marine environments, and considering the waste hierarchy and circular economy approach:

What are the criteria and corresponding applications of such plastics that are beneficial to the environment, compared with non-biodegradable plastics?

Recommendations by the Group of Chief Scientific Advisors

Adopt a definition of biodegradability as a system property which takes into account material properties and specific environmental conditions



Recommendations by the Group of Chief Scientific Advisors

Recommendation 1: Limit the use of BDPs in the open environment to specific applications for which reduction, reuse, and recycling are not feasible

1.1 Prioritize reduction, reuse and recycling of plastics before considering biodegradation

1.2 Limit use of BDP in the open environment to specific applications where collection from the open environment is not feasible

1.3 Do not consider BDPs as solution for inappropriate waste management or littering

Recommendations by the Group of Chief Scientific Advisors

Recommendation 2: Support the development of coherent testing and certification standards for biodegradation of plastic in the open environment

2.1 Support the development of testing and certification schemes evaluating *actual* biodegradation of BDP *in the context of their application* in a specific receiving open environment

2.2 Require testing of biodegradation of BDP applications under laboratory and simulated environmental conditions

2.3 Require assessment of biodegradation and environmental risk of BDP under the conditions of specific open environments

2.4 Support the development of a materials catalogue and their relative biodegradation rates in a range of environments

Recommendations by the Group of Chief Scientific Advisors

Recommendation 3: Promote the supply of accurate information on the properties, appropriate use and disposal, and limitations of BDPs to relevant user groups

3.1 Initiate and support information campaigns to address current misconceptions and confusion related to bio-based, compostable and biodegradable plastics

3.2 Support the development of a clear, effective, and standardised European labelling system for

a) end-users and consumers to ensure proper use and disposal of BDP applications in the open environment; and

b) manufacturers and vendors to ensure accurate information transfer along the value chain

Thank you



© European Union 2021

Unless otherwise noted the reuse of this presentation is authorised under the [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license. For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders.

Slide 01: Image source: © aguiters # 77218568, Vectromat # 6209544, 2016. Source: Stock.Adobe.com; Slide 02: © andrei45454 # 133381614, 2019. Source: Stock.Adobe.com