Scientific Advice Mechanism

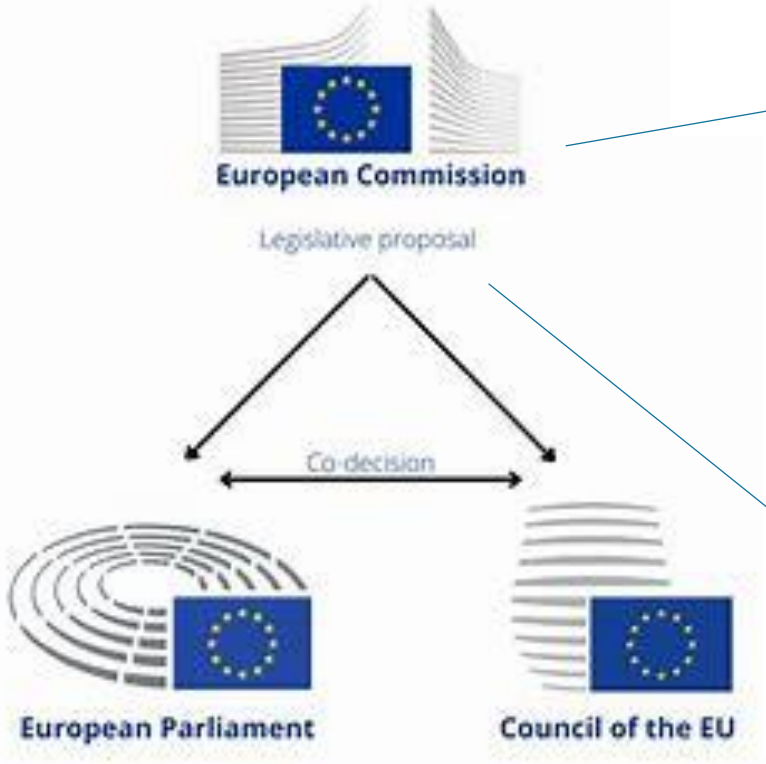
to the European Commission

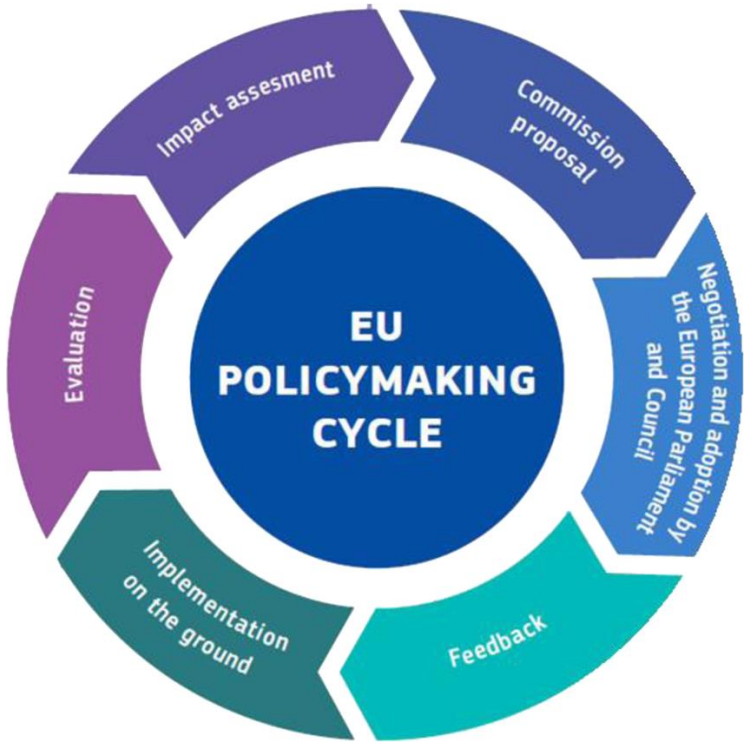
Karen Fabbri, SAM team, DG RTD, European Commission
Toby Wardman, SAPEA Communications
Louise Edwards, Academia Europaea Cardiff

Outline

- How European policymaking works
- Role of the Scientific Advice Mechanism (SAM)
- How the evidence review process works in the SAM
- SAM in action

EU Policy making

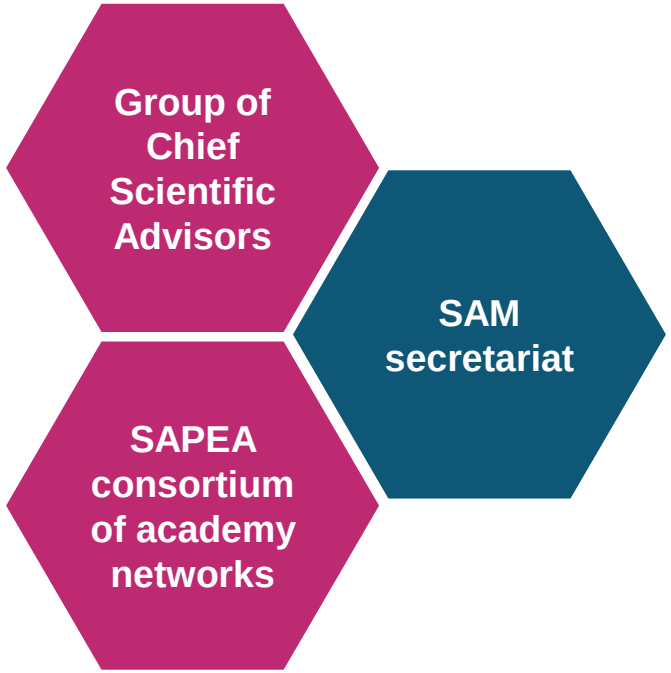




Who we are

We provide independent scientific evidence and policy recommendations to the European institutions by request of the College of Commissioners.

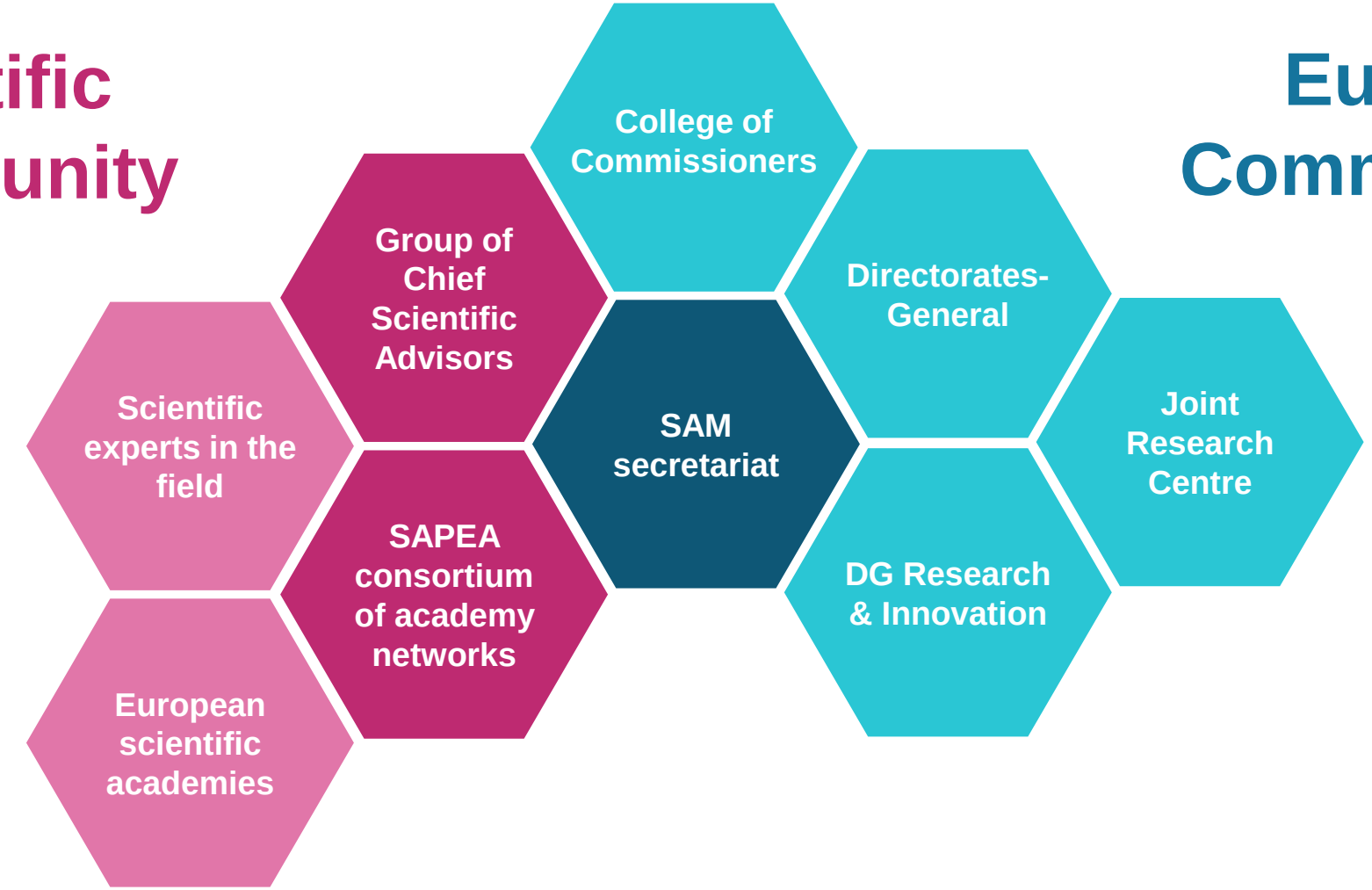
The three parts of the SAM



Interfacing between science and policy

Scientific community

European Commission



About the Advisors

- Nicole Grobert (chair)
- Nebojša Nakićenović (deputy chair)
- Naomi Ellemers
- Maarja Kruusmaa (to October 2024)
- Eric Lambin
- Alberto Melloni (to October 2024)
- Eva Zažímalová

About the Advisors

- **Seven highly qualified experts**
- Backgrounds in various disciplines, both social and natural sciences

- **Make policy recommendations** in response to requests for advice
- Recommendations based on publicly available scientific evidence

About the SAM secretariat

- **A small team within the European Commission**

- Acts as a liaison between the SAM and the Commission
- Coordinates scoping paper development
- Supports the Advisors with administration and record-keeping
- Works with SAPEA to communicate about the work of the SAM

How we work (simple version)

We receive a request

European Commissioners can ask us for advice on any topic

We review the evidence

A SAPEA working group writes an evidence review report

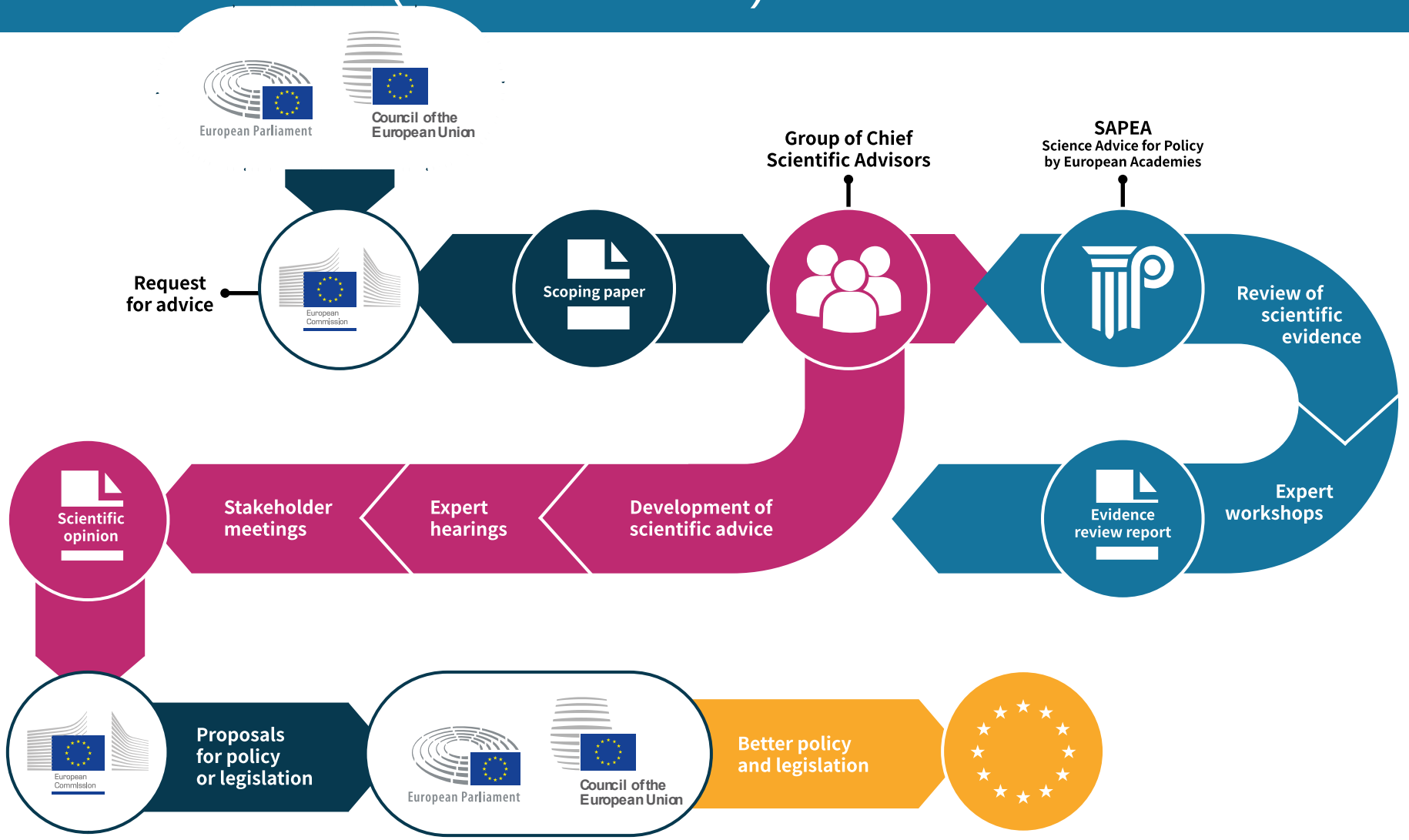
We make recommendations

The Advisors write a Scientific Opinion based on the evidence

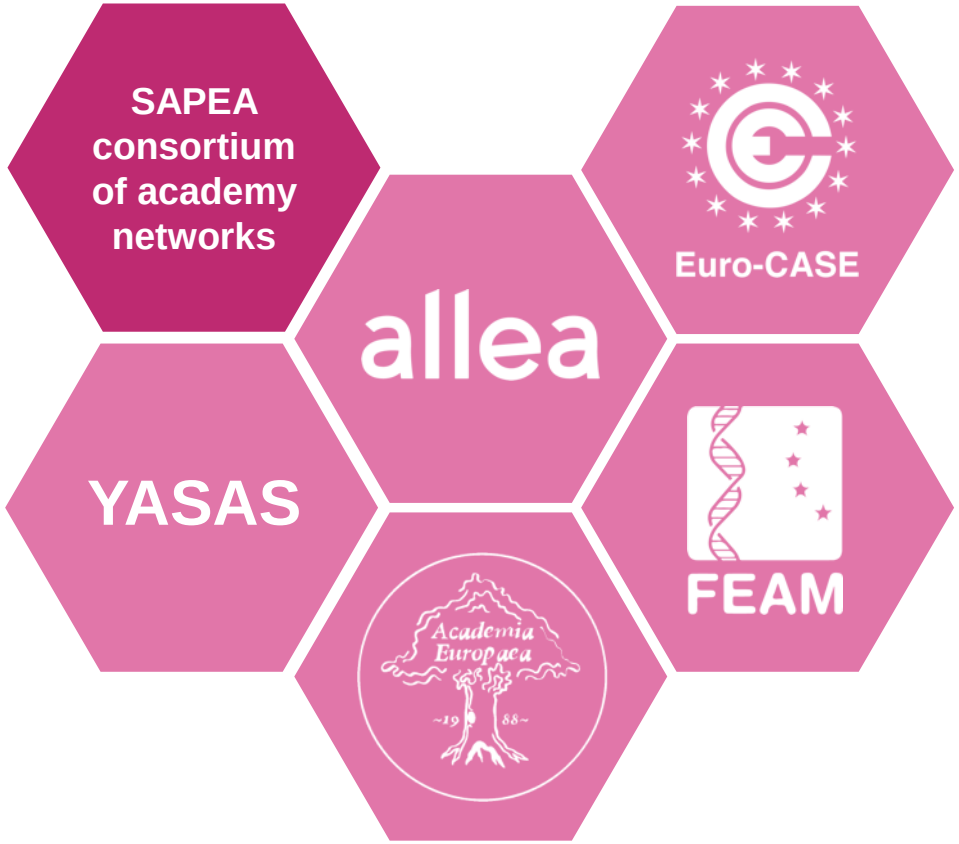
We deliver our advice

Our evidence and recommendations are both handed to the Commission

How we work (detailed version)



About SAPEA



- **Brings together around 110 academies from across Europe**
- Offers outstanding expertise from natural sciences, engineering and technology, medical, health, agricultural and social sciences, and the humanities

- **Provides independent evidence reviews on request**
- Informs the Advisors' policy recommendations

Diversity and inclusiveness

Within the Advisors

- Balance of qualities and experiences
- Gender balance
- Consideration given to next-generation leaders

Within SAPEA working groups

- Wide range of academic disciplines
- Focus on gender representation
- Focus on early- and mid-career researchers
- Geographical representation with focus on Widening countries
- About half of working group members are not academy fellows

Delivered advice

2017–2019

- Glyphosate
- Light duty vehicle real-time CO2 emissions
- Cybersecurity
- New techniques in agricultural biotechnology
- Food from the oceans
- Carbon capture and utilisation
- Improving authorisation processes for plant protection products in Europe
- Microplastics in nature and society
- Transforming the future of ageing
- Making sense of science for policy

2020–2024

- A sustainable food system for the EU
- Adaptation to climate change-related health effects
- COVID-19, future pandemics and other crises in the global context
- Biodegradability of plastics in the open environment
- A systemic approach to the energy transition in Europe
- Improving cancer screening in the EU
- Strategic crisis management in the EU
- Sustainable food consumption
- AI in science

Engagement activities

Community-building:

- Major annual conference series for science-for-policy community
- Developing science-for-policy capacity among Europe's academies

Communications and outreach:

- Hundreds of public events
- Popular podcast on issues in science advice

Scholarship:

- Principles on scientific advice for policy and society

SAM in action (1) Food from the Oceans

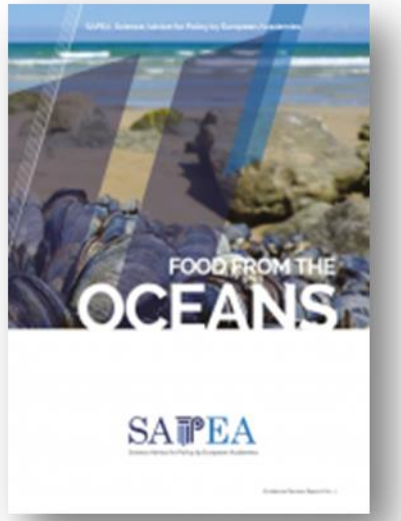
- Requested by Commissioner Vella – Environment, Maritime Affairs and Fisheries, 2014-2019

- Delivered in 2017

- Scoping question
  - "*How can more food and biomass be obtained from the oceans in a way that does not deprive future generations of their benefits?*"

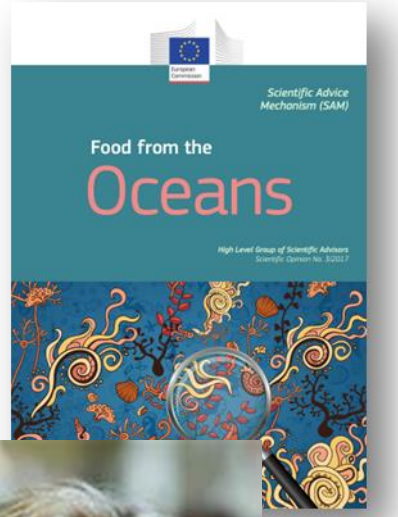
Evidence review report

- Working group of 18 experts from across different disciplines and fields
- Covered both natural sciences and humanities/social sciences

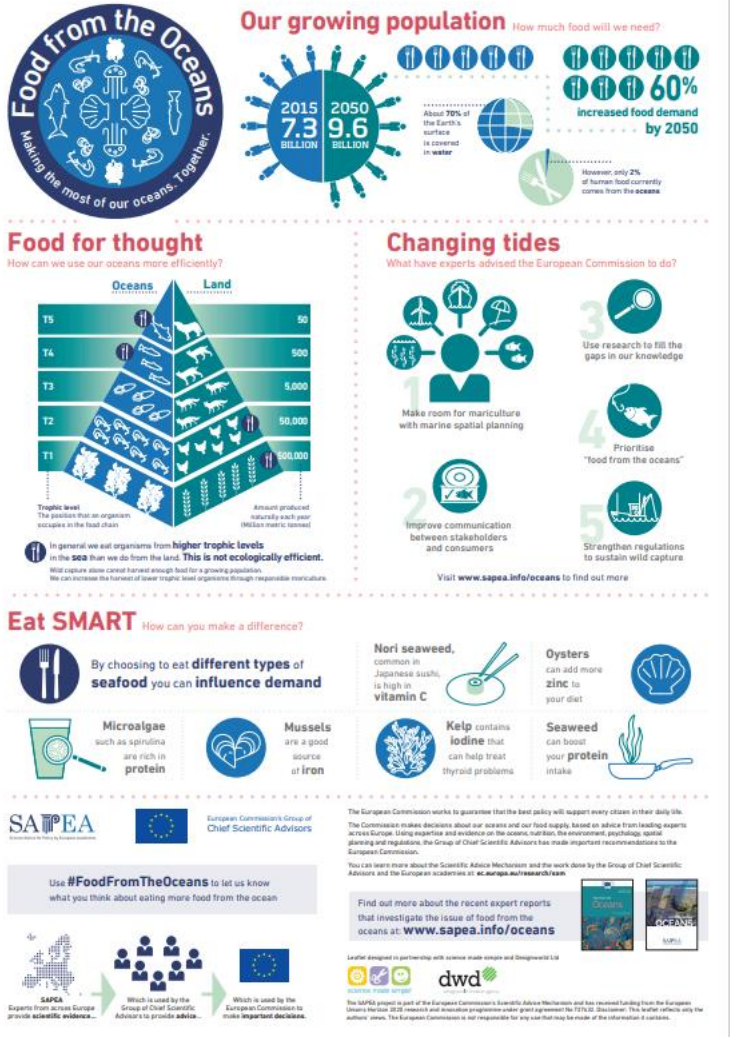


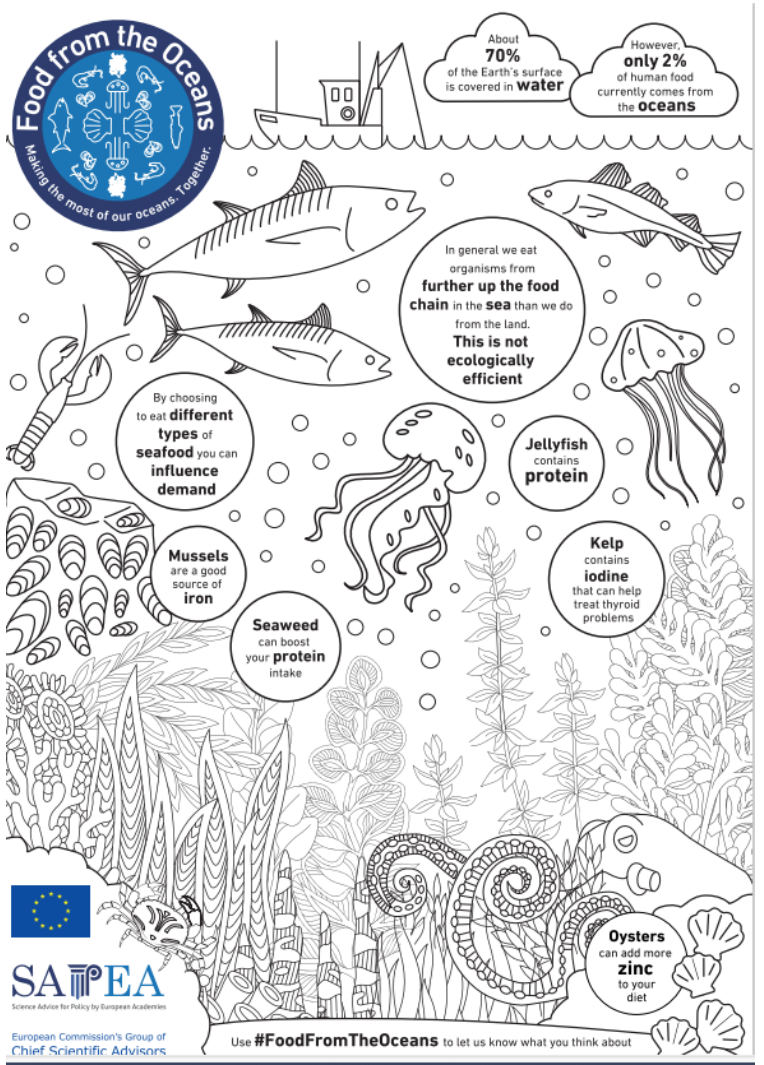
Scientific Opinion

- High-level recommendations
  - Mainstream into **systems-level** and **global policy** agendas
  - Vibrant **mariculture sector**
  - Sustain **wild-capture**
  - Facilitate **policy change**, future-proof policy and extend knowledge



Outreach


Food from the Oceans
Making the most of our oceans. Together.
Our growing population
How much food will we need?
2015 7.3 BILLION
2050 9.6 BILLION
60%
increased food demand by 2050
About 70% of the Earth's surface is covered in water
However, only 2% of human food currently comes from the oceans
Food for thought
How can we use our oceans more efficiently?
Oceans
Land
T5
T4
T3
T2
T1
50
500
5,000
50,000
500,000
Trophic level
The position that an organism occupies in the food chain
Amount produced naturally each year (Million metric tonnes)
In general we eat organisms from higher trophic levels in the sea than we do from the land. This is not ecologically efficient.
Wild capture alone cannot harvest enough food for a growing population.
We can increase the harvest of lower trophic level organisms through responsible mariculture.
Changing tides
What have experts advised the European Commission to do?
1 Make room for mariculture with marine spatial planning
2 Improve communication between stakeholders and consumers
3 Use research to fill the gaps in our knowledge
4 Prioritise "food from the oceans"
5 Strengthen regulations to sustain wild capture
Visit www.sapea.info/oceans to find out more
Eat SMART
How can you make a difference?
By choosing to eat different types of seafood you can influence demand
Nori seaweed, common in Japanese sushi, is high in vitamin C
Oysters can add more zinc to your diet
Microalgae such as spirulina are rich in protein
Mussels are a good source of iron
Kelp contains iodine that can help treat thyroid problems
Seaweed can boost your protein intake
SAPEA
Science Advice for Policy by European Academies
European Commission's Group of Chief Scientific Advisors
Use #FoodFromTheOceans to let us know what you think about eating more food from the ocean
The European Commission works to guarantee that the best policy will support every citizen in their daily life.
The Commission makes decisions about our oceans and our food supply, based on advice from leading experts across Europe. Using expertise and evidence on the oceans, nutrition, the environment, psychology, spatial planning and regulations, the Group of Chief Scientific Advisors has made important recommendations to the European Commission.
You can learn more about the Scientific Advice Mechanism and the work done by the Group of Chief Scientific Advisors and the European academies at: ec.europa.eu/research/sam
Find out more about the recent expert reports that investigate the issue of food from the oceans at: www.sapea.info/oceans
OCEANS
Which is used by the Group of Chief Scientific Advisors to provide advice...
Which is used by the European Commission to make important decisions.
dwd


Food from the Oceans
Making the most of our oceans. Together.
About 70% of the Earth's surface is covered in water
However, only 2% of human food currently comes from the oceans
In general we eat organisms from further up the food chain in the sea than we do from the land. This is not ecologically efficient
By choosing to eat different types of seafood you can influence demand
Jellyfish contains protein
Mussels are a good source of iron
Kelp contains iodine that can help treat thyroid problems
Seaweed can boost your protein intake
Oysters can add more zinc to your diet
SAPEA
Science Advice for Policy by European Academies
European Commission's Group of Chief Scientific Advisors
Use #FoodFromTheOceans to let us know what you think about

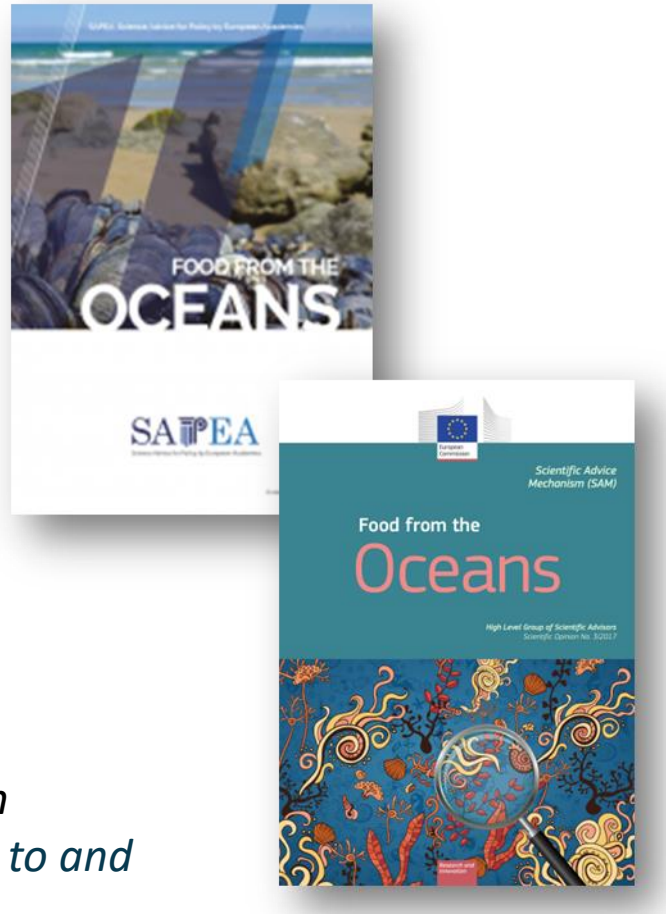

sapea.info
Twitter @SAPEAnews

Impact (up to 2023)

- Academic impact
  - 78 citations

- EU legislative and related impact
  - 15 citations in legislative and associated documents
    - EU Communication on algae sector
    - Implementation of Common Fisheries policy

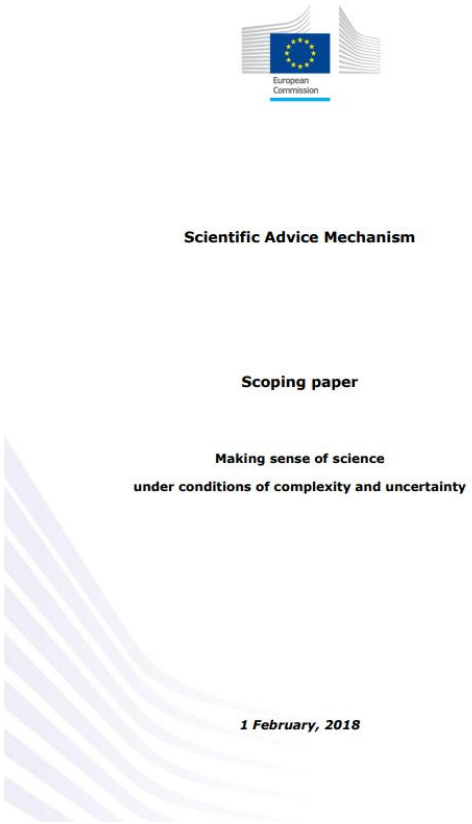
- Wider policy impact
  - Government of Ireland. (2023). *A strategic review of Irish microalgae cultivation*
  - FAO. (2022). *The role of genetic resources for food and agriculture in adaptation to and mitigation of climate change*



SAM in action (2) Making sense of science

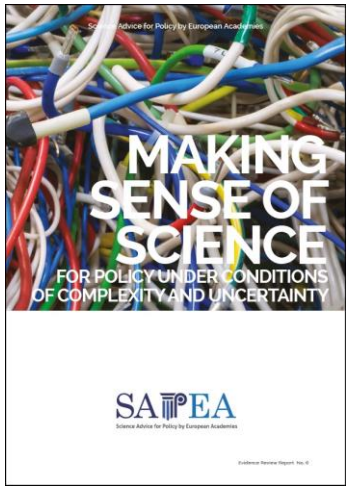
- Delivered in 2019

- Scoping question
  - *How to provide good science advice to EC policymakers, based on available evidence, under conditions of scientific complexity and uncertainty?*



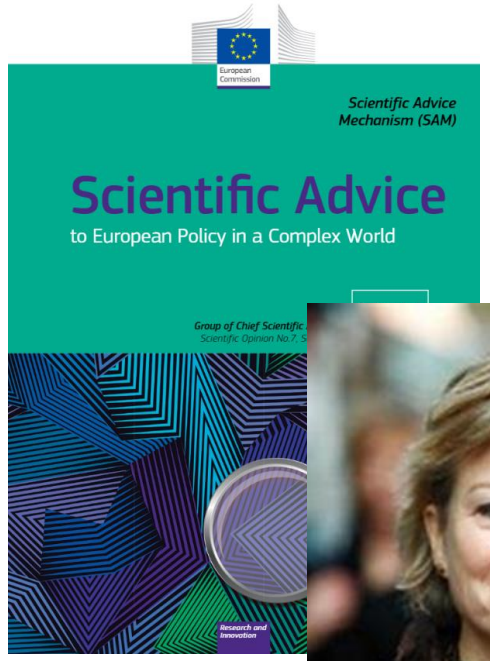
Evidence review report

- 16 experts from across disciplines and fields
- Examined science as source of policy advice, using it in policymaking and improving science advice



Scientific opinion

- High-level recommendations
  - Engage early and often, establish boundaries and scope
  - Use the full scope of good science
  - Ensure rigorous synthesis
  - Codify good science advice
  - Analyse, assess and communicate uncertainties
  - Explain the path from evidence to advice



Outreach


About EU science advice: Making Sense of Science for Policy
Copy link
MAKING SENSE
OF SCIENCE
FOR POLICY
Play (k)

Impact (up to 2023)

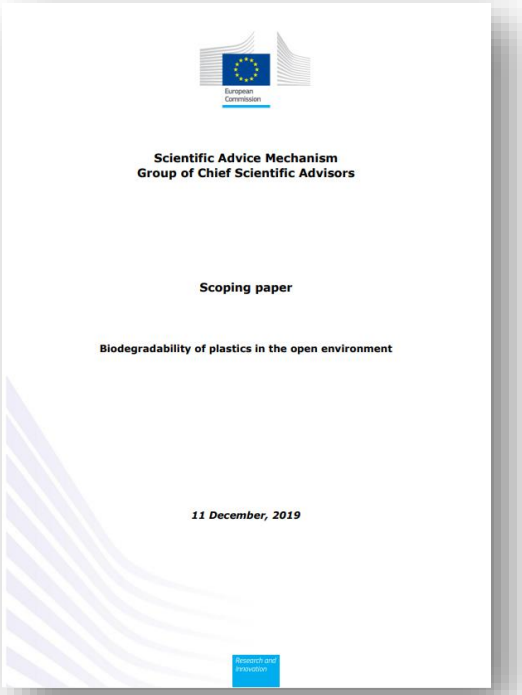
- Academic impact
  - 81 citations

- EU policy impact
  - European Commission, Joint Research Centre, (2022). Science for policy in Portugal.

- Wider policy impact
  - International Science Council. (2023). *Unprecedented and unfinished.* Second edition.
  - EFSA. (2022). *Degree of certainty in scientific advice: implications for risk management and communication.*
  - International Development Research Centre. (2023). *Réinventer le dialogue entre sciences, politiques et grand public : points de vue. Reinventing the dialogue between science, politics and the general public: points of view.*

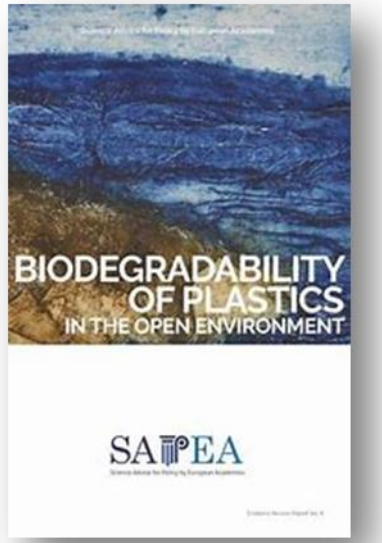
SAM in action (3) Biodegradability of Plastics

- Requested by Commissioner Vella – Environment, Maritime Affairs and Fisheries, 2014-2019
- Delivered in 2020
- Scoping questions
  - *…What are the criteria and corresponding applications of such plastics that are beneficial to the environment, compared with non-biodegradable plastics?"*



Evidence review report

- Expert group of 11 across different disciplines and fields
- Looked at process of how plastic degrades, possible applications, testing and standards, ecological risk, social and policy aspects



Scientific Opinion

- High-level recommendations
  - Define biodegradability as a **system property** which takes into account material properties and specific environmental conditions
  - Limit to **specific applications** for which reduction, reuse, and recycling are not feasible
  - Support **testing and certification standards**
  - Promote the supply of **clear and accurate information**

Outreach


A pilot study on biodegradable plastics at Bergen Aquarium
NORCE
NORCE
The water temperature is about plus 9 degrees,
in other words quite cold water.

Impact (up to 2023)

- Academic impact
  - 72 citations

- EU legislative and related impact
  - 7 citations in legislative and associated documents
    - EU Communication setting out an EU-wide policy framework focusing on biobased, biodegradable and compostable plastics
- Wider policy impact
  - United Nations Environment Programme. (2023). *Turning off the tap. How the world can end plastic pollution and create a circular economy*.
  - European Commission, Directorate-General for Environment. (2022). *Biobased plastic – Sustainable sourcing and content – Final report*.

Forthcoming advice

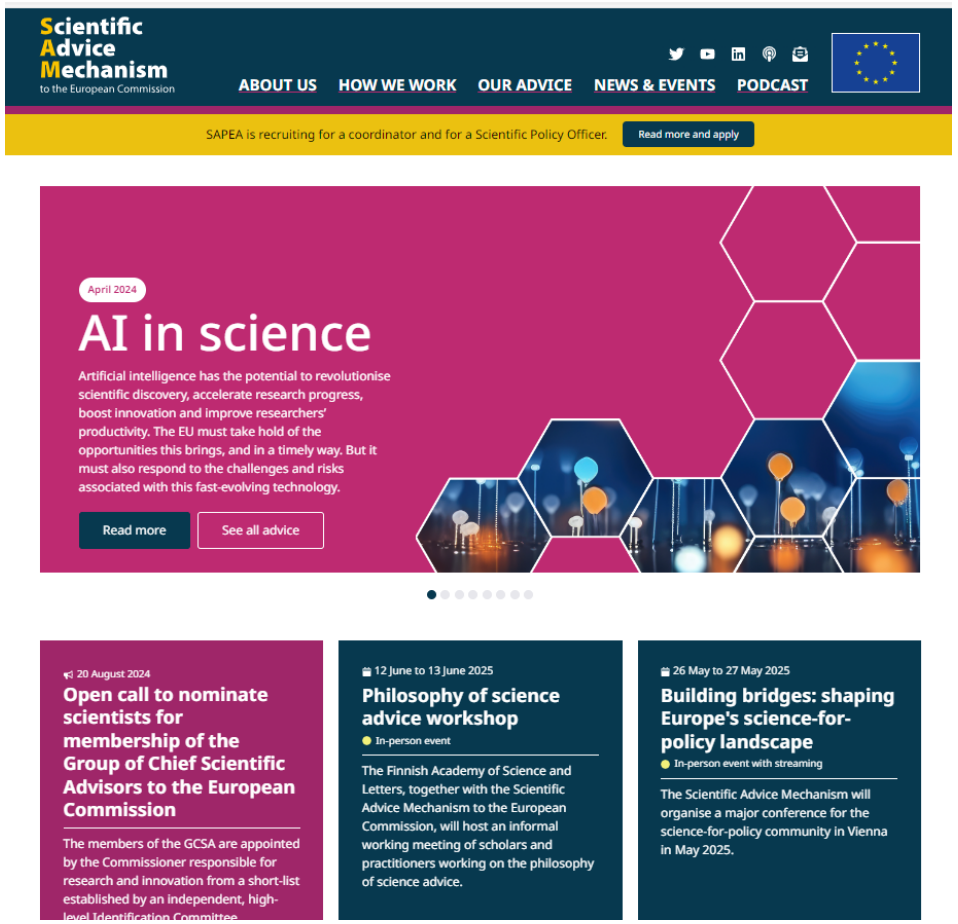
2024

Solar radiation modification

2024

One Health governance

More information



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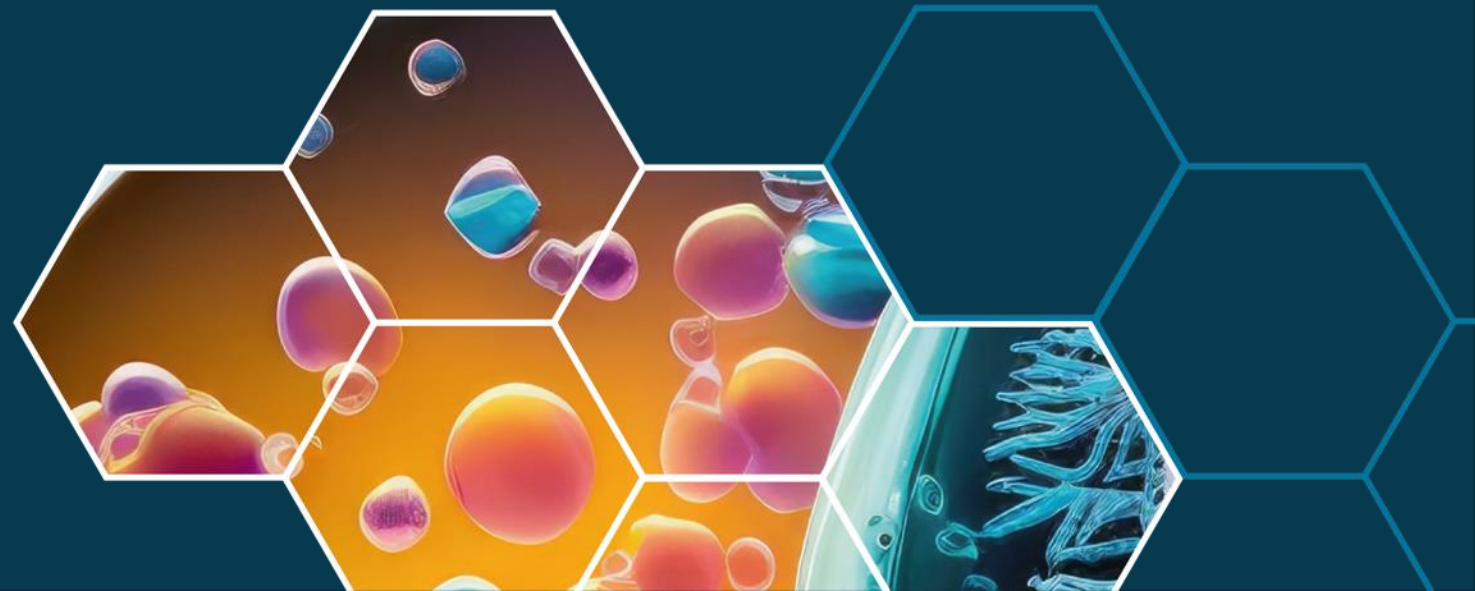
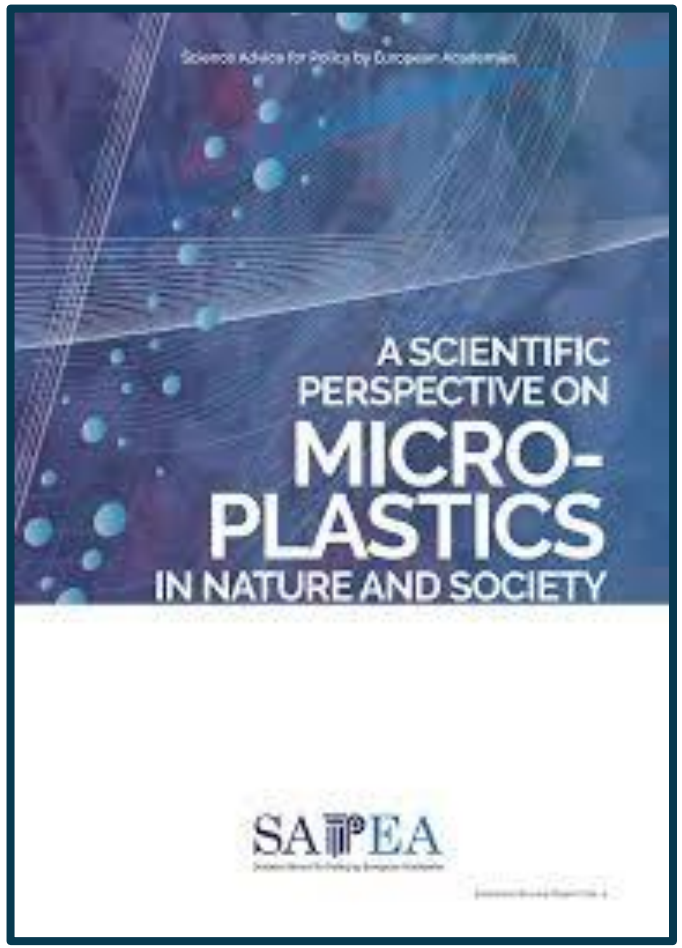
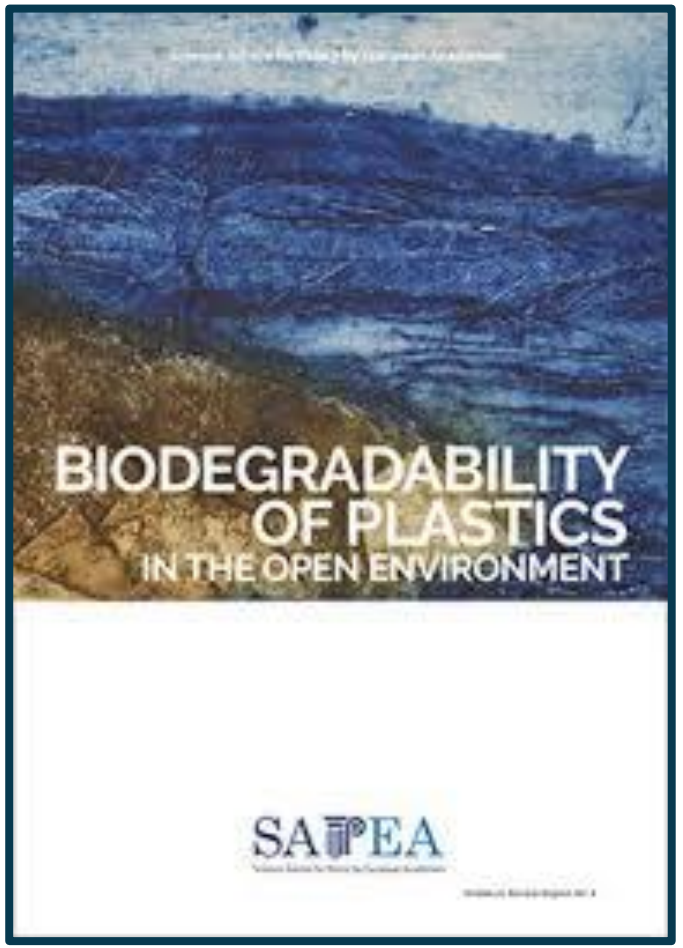
Richard Thompson

University of Plymouth, UK



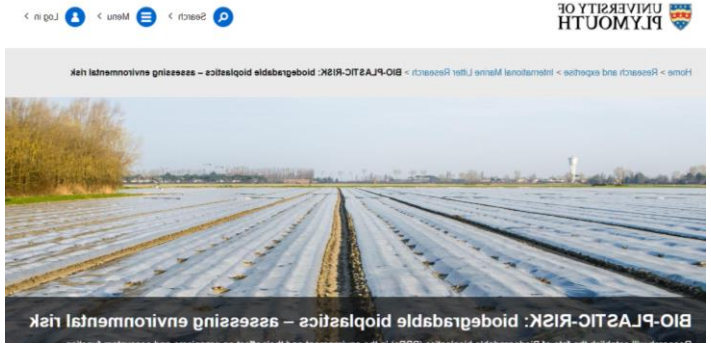
Evidence reviews





Participation, opportunities, outcomes

- Promote scientific evidence arising from your area of expertise for policy audiences
- Opportunities for early career to senior researchers
- Rich dialogue with key researchers in your field, including those from different disciplines
- Opportunities to present this research at high profile events
- Facilitates funding success



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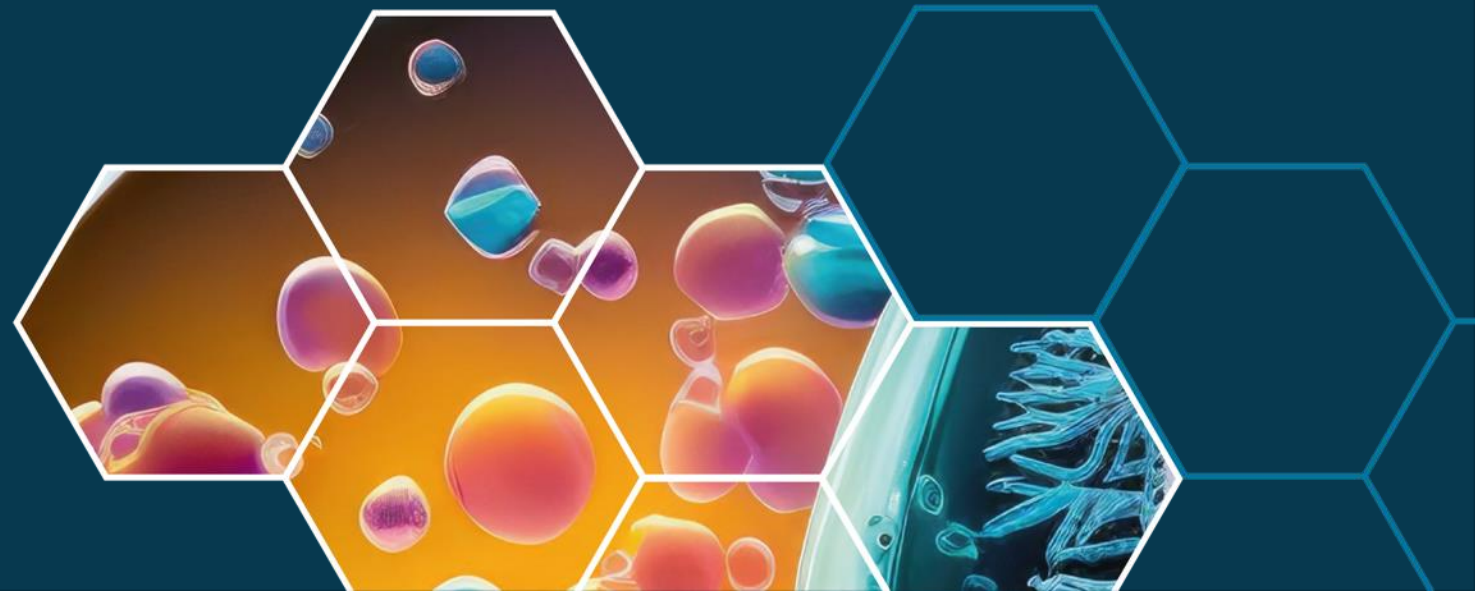
to the European Commission

My experience as member of the GSCA

Pearl Dykstra



Crucial role for the social sciences

They bring a unique perspective: focus on institutions, cultural context, power dynamics, values, social networks, etcetera

Illustration: **cybersecurity** recommendations

- Power dynamics ➔ control over own data
- Power dynamics ➔ contextual identity
- Values ➔ duty of care (producers)
- Values ➔ transparency about data breaches

Typical approach to cybersecurity: emphasis on technological measures (police, military)

SAM approach is different: citizens and quality of products

The advice is being used. Why effective?

- Demonstrate impartiality (declare interests)
- Work in a consultative way (touch base with policy makers)
- Rely on the best available evidence (thus, speak with authority)
- Tailor recommendations to relevant legislation (greater likelihood put in practice)