Scientific Advice Mechanism
to the European Commission

Science advice in action: examples from environment policymaking

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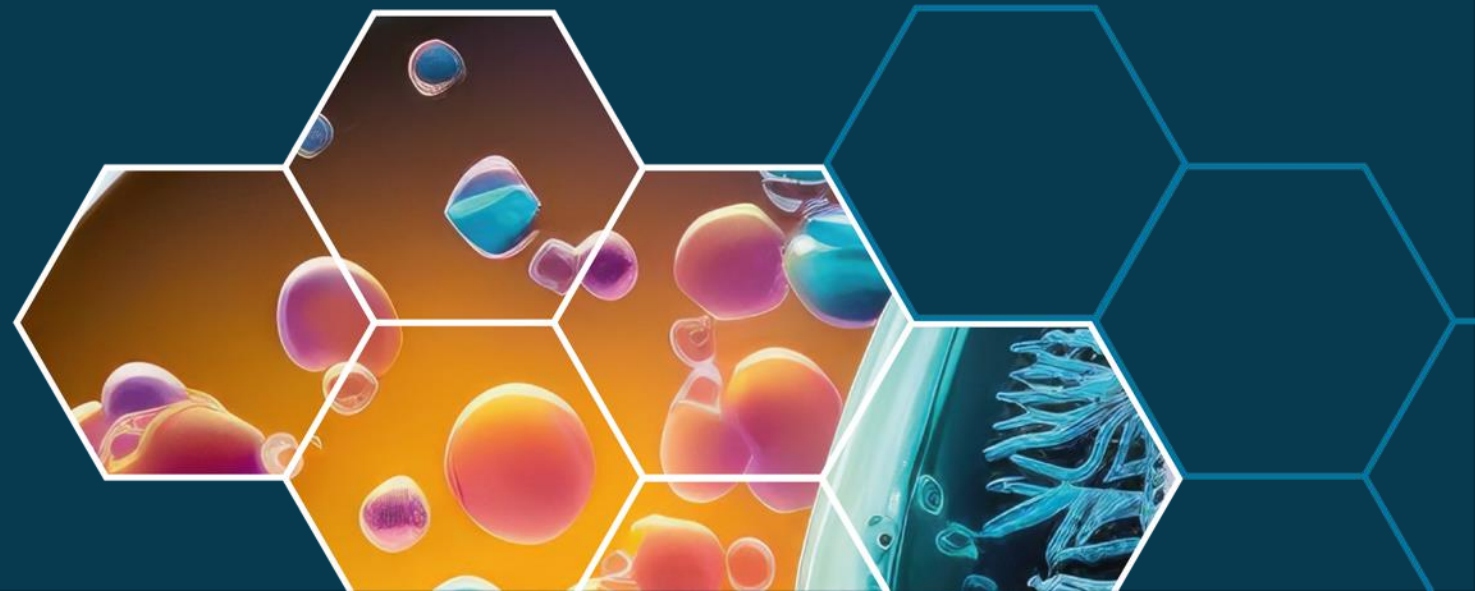
Manager, Academia Europaea Cardiff



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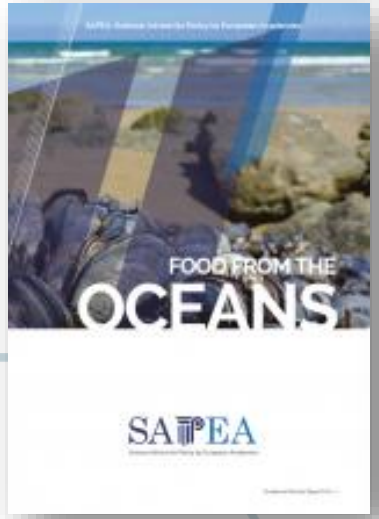
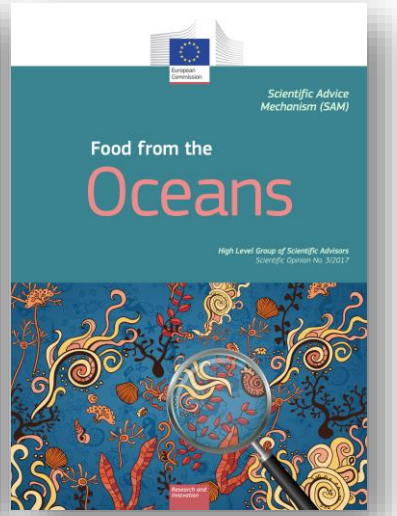
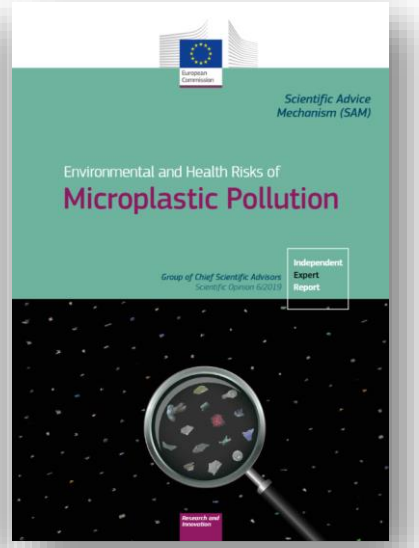
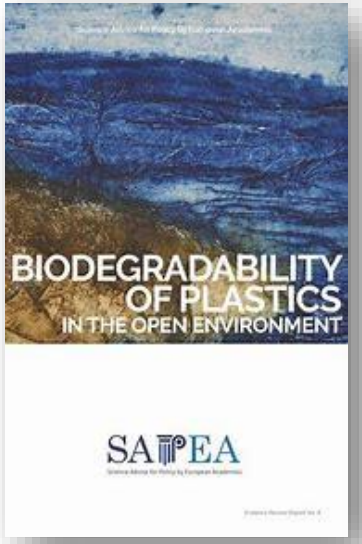
Examples from policymaking on environment









Not yet delivered

Solar radiation modification

Structure of European Commission

- EC's work steered by College of Commissioners
- 27 Commissioners
- Commissioner-designate hearings 4-12th November
- Request work from the SAM

Division of competencies

- Influences scope of our work
- Exclusive competencies (e.g. monetary union, customs union)
- Shared competencies (e.g. environment, transport, energy)
- Supporting competencies (e.g. industry, culture, education)
- Principles of proportionality and subsidiarity

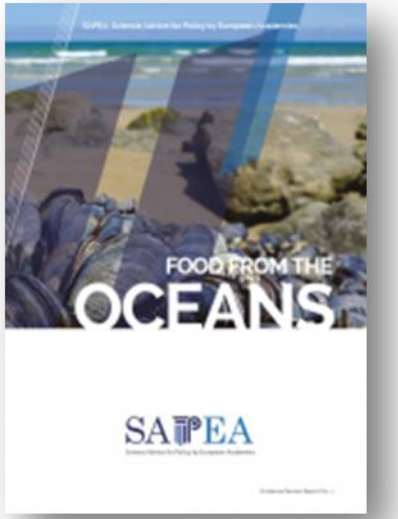
Food from the Oceans

- 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

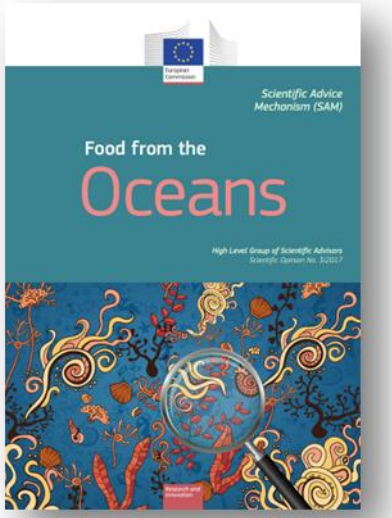
- Working group of 18 experts from across different disciplines and fields
  - Two sub-groups, two Co-Chairs

- Main sections
  - Drivers of demand
  - Potential for an increased ocean harvest
  - Market and social aspects
  - Policy options

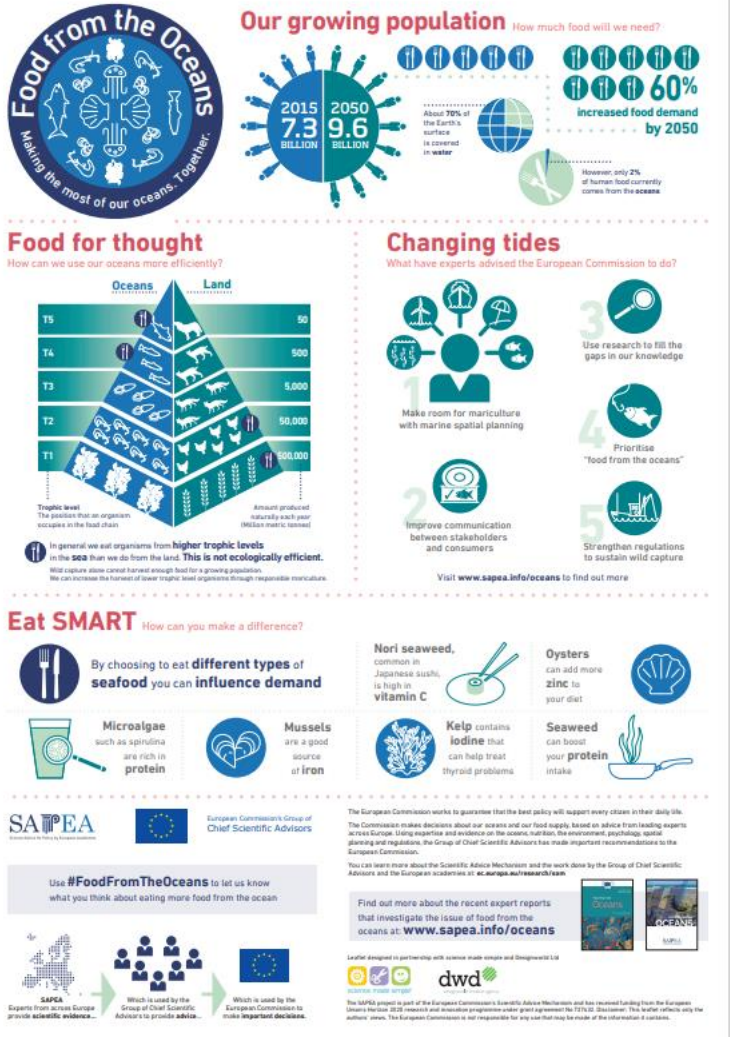


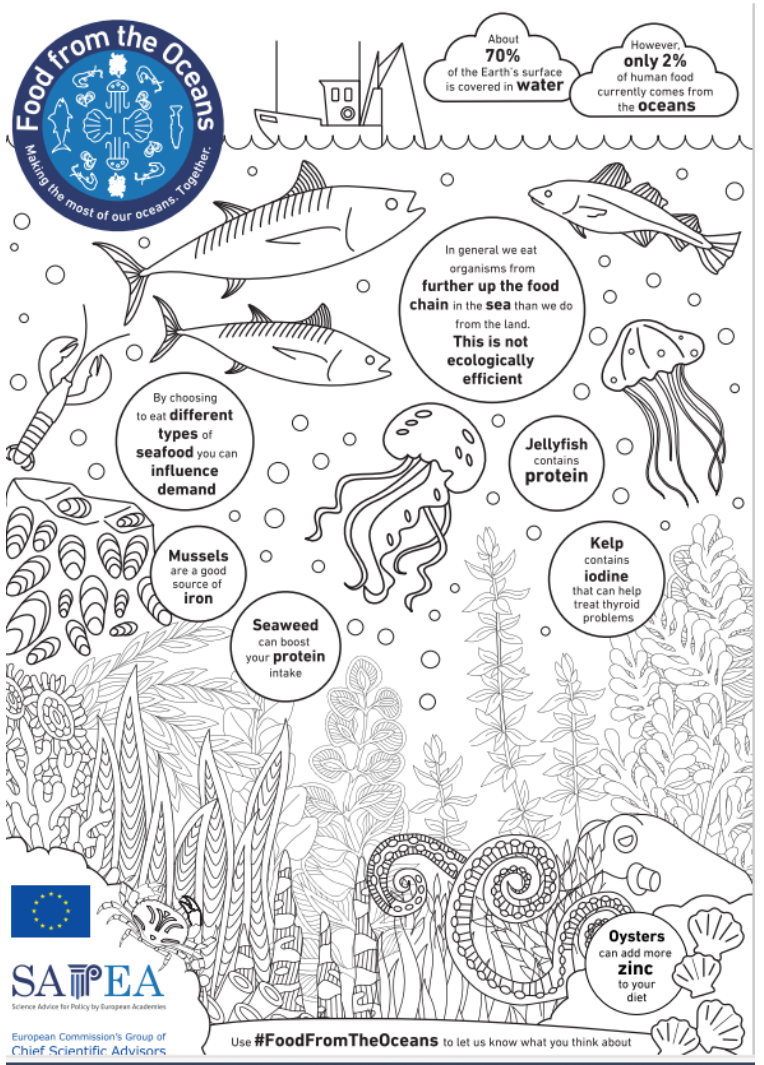
Scientific Opinion

- High-level recommendations
  - Mainstream "Food from the Oceans" into **systems-level** and **global policy** agendas
  - Integrate planning, assessment and informed decision making for a vibrant **mariculture sector**
  - Sustain **wild-capture** - ensuring implementation of existing regulations and use of best practice
  - 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

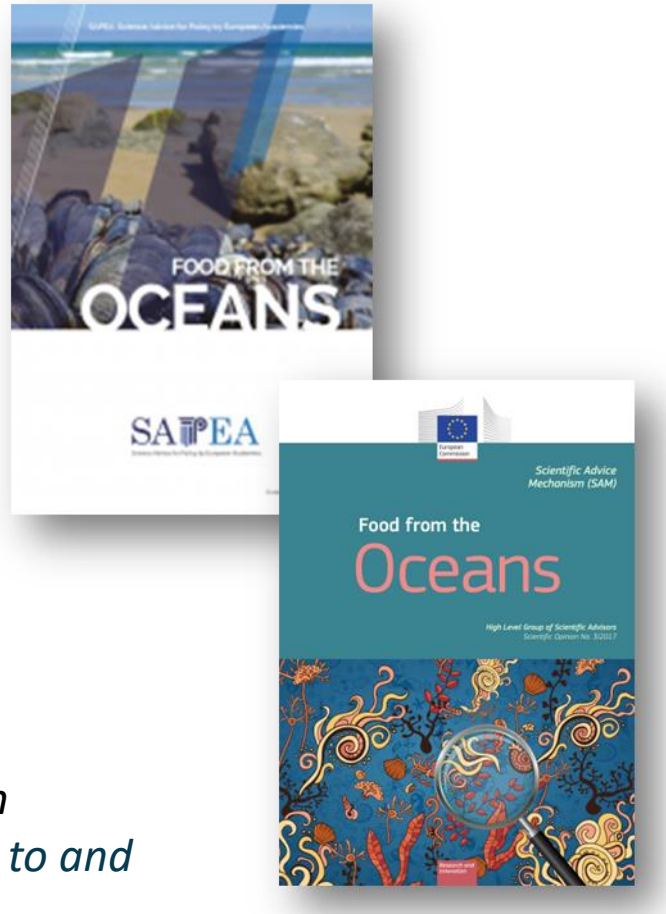

sapea.info
Twitter @SAPEAnews

Impact (up to 2023)

- Academic impact
  - 78 citations

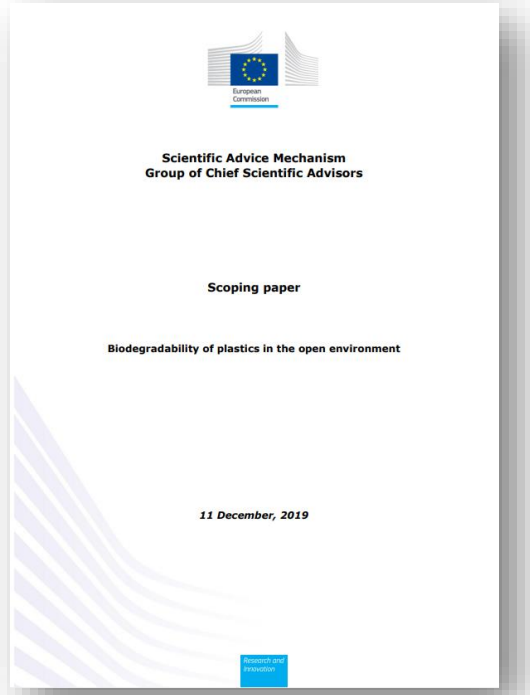
- EU legislative and related impact
  - 15 citations in legislative and associated documents
    - EU Communication on algae sector
    - Implementation of Common Fisheries policy

- 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*



Biodegradability of Plastics

- Requested by Commissioner Vella – Environment, Maritime Affairs and Fisheries, 2014-2019
- Delivered in 2020
- Scoping questions
  - *"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?"*



Evidence review report

- Expert group across different disciplines and fields

- Structure of report
  - Definitions, how plastic degrades
  - Applications and implications for the environment
  - Testing and standards
  - Ecological risk assessment
  - Social, behavioural and policy aspects
  - Policy options

Scientific Opinion

- High-level recommendations
  - Adopt a definition of biodegradability as a system property which takes into account material properties and specific environmental conditions
  - Limit the use of biodegradable plastics in the open environment to specific applications for which reduction, reuse, and recycling are not feasible
  - Support the development of coherent testing and certification standards for biodegradation of plastic in the open environment
  - Promote the supply of accurate information on the properties, appropriate use and disposal, and limitations of biodgradable to relevant user groups

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.

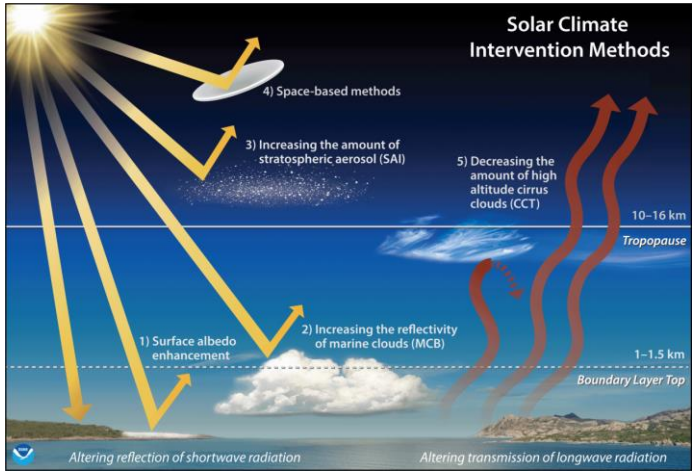
Impact (up to 2023)

- 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*.

Solar Radiation Modification

- Requested by Executive Vice-President Frans Timmermans
- To be delivered in 2024 (forthcoming)
- Scoping question
  - "*How to address the risks and opportunities associated with research on Solar Radiation Modification and with its potential deployment? What are the options for a governance system for research and potential deployment taking into account different SRM technologies and their scale?*



Not yet delivered

Solar radiation modification

Solar Radiation Modification - outputs

- Evidence Review Report
- Scientific Opinion
- Opinion by the European Group on Ethics in Science and New Technologies (EGE)
- Publication and outreach

Not yet delivered

Solar radiation modification

Scientific Advice Mechanism
to the European Commission

Look out for publication and outreach programme for SRM

Thank you for listening

https://scientificadvice.eu/