

## Small particles, big concerns: Marine microplastics revisited



Wednesday 6th December 2023, 14:15 – 16:00 CET

Co-hosted by MEP Catherine Chabaud and MEP Maria  
Spyraki

### Speakers:

- **MEP Catherine Chabaud**
- **MEP Maria Spyraki**
- **Niall McDonough**, Chair JPI Oceans
- **Aaron Beck**, Coordinator JPI Oceans HOTMIC project - Horizontal and vertical oceanic distribution, transport, and impact of microplastics – GEOMAR Helmholtz Centre for Ocean Research Kiel
- **Georg Hanke**, Implementation of the Marine Strategy Framework Directive and upcoming position paper on microplastics, European Commission Joint Research Center
- **Emmanuelle Maire**, Head of Unit on 'Circular Economy, Sustainable Production & Consumption' (B1), DG ENV, European Commission
- **Camilla Carteny**, Microplastics Technical Manager, Plastics Europe
- **Frédérique Mongodin**, Senior Marine Litter Policy Officer, Seas At Risk
- **Janyl Moldalieva**, Policy Officer, United Nations Environment Programme (UNEP)
- **Stéphane Isoard**, Head of Group – Oceans and sustainable blue economy, EEA

## Opening Remarks

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*MEP Maria Spyraiki*

*“(Microplastics) are dangerous for health, for the environment, and for people’s lives”*

As an opening statement, **MEP Maria Spyraiki** called **microplastic pollution a very important topic for human health and the environment**, considering them **extremely dangerous**. Their presence can be found almost anywhere and they are **especially dangerous for marine environment**. She highlighted the response of the EU to tackle this issue, that took a **“great step forward”** since 2021. However, **there is much to be done**, and there is legislation on the way to diminish that gap. **All companies**, large and small, need to **evolve and adapt to tackle this problem**. She concluded with the call for **innovation and research**, as well as **more funding for new technologies**.

*Niall McDonough*

*“The role of science and our research community remains critical in putting us in the right path to reducing pollution, achieving ambitious policy goals under the EU Green Deal.”*

**Mr. Niall McDonough** remarked when the **origin and attention to this problem** started to occur in the political community. He emphasized the **hazards associated with microplastics**, citing their **small size and toxicity**. **Mr. McDonough** acknowledged and appreciated the **scientific community's efforts** in identifying sources, transmission and degradation pathways, as well as understanding their impact. He also commended the standardization of measuring and monitoring methods for microplastics. Introducing his organization, **JPI Oceans**, **Mr. McDonough** outlined its role in addressing the microplastics issue. With **knowledge now available**, he stressed the **crucial role of effective communication**. Additionally, he applauded the measures taken by the EU to tackle the problem but called for **increased investment in scientific research** to gain a deeper understanding of the issue. **Mr. McDonough** emphasized the importance of mechanisms like JPI Oceans, pooling funding from **national research budgets** to deliver policy-relevant research and knowledge outputs in support of sustainable and healthy oceans

## Scientific Presentations

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*“Ecological aspects of microplastics in the marine environment” by Aaron Beck*

*“Marine microplastics are ubiquitous in the marine environment, both in coastal and open ocean.”*

**Mr. Aaron Beck** introduced six **international projects conducted within the framework of JPI Oceans** that looked comprehensively at microplastics in the ocean. He stated the need to **improve methods analyzing microplastics**, both current and new, through harmonization, automation and innovation. The projects showed that **microplastics are present in all marine compartments** and their presence continues to increase as global production increases. Models predicting the transport of microplastics have been greatly improved through the JPI Ocean projects, but some important controls such as vertical transport need better parameterization. As expected, there is **widespread uptake of microplastics by marine organisms**. Although many organisms can discriminate between plastic and food, food scarcity and abundant microplastics can make that process more difficult. The projects also investigated **chemical additive leaching and their toxicity**. There is compelling **evidence of chronic and acute toxicity from plastic additive chemicals to marine organisms**. In conclusion, **microplastics are ubiquitous** and there is a continued **need to monitor both micro and macroplastics**, since the latter is a source of micro and nanoplastics, as well as the chemical additives they contain. While small microplastics are very challenging to sample and analyze, there is hope that standardization and automation will facilitate monitoring in the future.

*“Implementation of the Marine Strategy Framework Directive and upcoming Position Paper on microlitter” by Georg Hanke*

*“Mitigation measures (of microplastics) are the ultimate goal (of the Marine Strategy Framework Directive).”*

**Mr. Georg Hanke** introduced the definition of **microplastics and microlitter**, plus their origin. He further presented the **Marine Strategy Framework Directive (MSFD)**, its tasks and mission, such as monitoring and assessment of microlitter, as well as mitigation against microlitter. He also introduced the **Technical Group on Marine Litter of the MSFD**. He reminded the need to **harmonize methodologies for monitoring all size of marine litter**, and most recently, **pellets**. He mentioned that the EU Member States have been collecting marine litter data and presenting the data collected, but stating the need for better data. He introduced the **global projects, with special regard for the UNEA Global Treaty on Plastic Pollution, as well as the MSFD partnership with JPI Oceans**. He underlined that despite all the progress that has been done, **there are still plenty of challenges ahead**. There were some examples presented, such as developing sampling strategies, detailed understanding of litter pathways, to enable their modelling and

tracking, analysis of specific polymers, data quality control, and setting threshold values. He concluded with a presentation of a Position Paper on microlitter.

## Panel discussion

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### Speakers that took part in the panel discussion:

- **Emmanuelle Maire**, Head of Unit on 'Circular Economy, Sustainable Production & Consumption' (B1), DG ENV, European Commission
- **Camilla Carteny**, Microplastics Technical Manager, Plastics Europe
- **Frédérique Mongodin**, Senior Marine Litter Policy Officer, Seas At Risk
- **Janyl Moldalieva**, Policy Officer, United Nations Environment Programme (UNEP)
- **Stéphane Isoard**, Head of Group – Oceans and sustainable blue economy, EEA
- **Aaron Beck**, GEOMAR

The panel discussion commenced as **Ms. Emmanuelle Maire** stated the importance of **monitoring maritime litter in the receiving environment (oceans, rivers, soils etc.)**, but also from certain products that release microplastics during use. There is a need to **set standards for the release of microplastics unintentionally released from products, so that the EU could restrict some products over certain threshold**. She was asked by the moderator about the **effort done by the Commission to tackle microplastics** within the European Green Deal, therefore wondering about the Commission's vision on the aforementioned topic and legislation. She mentioned that to address **the challenges on the ocean**, there is **need to handle microplastics in land**. She recalled the risks posed by **microplastics to the environment and, potentially, human health. The Commission has a holistic approach. First** to address the degradation of large **macroplastics into microplastics**, through legislation to avoid littering the environment and keeping plastic in closed loops such as the Waste Framework Directive, the Single-use Plastics Directive and the Packaging and Packaging Waste Regulation Proposal. **Second**, the addition of microplastic in **in other products**, such as cosmetics, that is now restricted in EU law under REACH. Third, it is about the **unintentional release of microplastics from a series of products**, where research has advanced in that area and there is an impact assessment already done. The result of this impact assessment was the **pellets regulation proposed to the EP and Council. This is the third largest source of pollution related to the unintentional release of microplastics** and where there is a loophole in what the EU can do. There are **three key pillars in the pellets regulation proposal**, the first being a **value chain approach**. The second pillar is the **certification of medium and large companies that handle pellets in an appropriate way**. The final pillar is to **help operators monitor their losses**. She highlighted the role of the industry in coming forward voluntarily to address this issue. She concluded that the other sources already have legislation in the making, and that measures **could be implemented on other sources of microplastics**, depending on the results of the impact assessments.

Following **Ms. Emmanuelle Maire**, **Ms. Camilla Carteny** acknowledged the **presence of microplastics in all environments** and mentioned the work that the industry has been

doing in monitoring projects at national, regional and local level. She stated that the **plastic industry is assessing the microplastics situation**, to have risk assessment frameworks and mitigation measures. She was asked by the moderator about the **role of innovation, as well as best practices coming from the industry**, to which she highlighted that the **microplastics issue is relatively new and data collection on it is not yet complete**. She also remarked the need for data driven policy making. **Innovation needs to be supported by the right policy framework**. At the same time, Plastics Europe has introduced a **roadmap to help companies achieve the sustainability and circularity goals**. She concluded saying that **innovation is at the core of the industry**, when it comes to materials.

The next intervention was from **Ms. Frédérique Mongodin**, who appreciated the **mention of additive chemicals in plastic and their potential toxicity on humans, wildlife and ecosystems**, since **this problem has been vastly overlooked. Even tiny doses can be fatal to wildlife**, therefore saying that not only **the size of the product matters, but also its toxicity and overall impact on the local environment**. She highlighted that **plastic pollution hotspots coincide with important nursery grounds for marine life**. There were given examples of **microplastic sources that have not been dealt with**, such as tires, textiles, paints, and agriculture products. She was asked about **recommendations for policy makers to tackle the issue of microplastics**, to which she responded with **prevention approach and binding steps across all responsible sectors**. She added that **microplastics cannot be taken out after having reached the environment**. Therefore, there's a need to **reduce plastic production and consumption, starting with unnecessary plastics**, to reduce pollution levels as plastic production is expected to triple by 2050. At the same time, **industry must be part of the solution**, by **increasing transparency on their use of polymers and additives**. She underlined a loophole in the pellets regulation, therefore suggesting to remove the minimum volume below which operators do not need to take prevention steps and **raise awareness for the workers using pellets to learn best practices**. It is also key that information flows from the top to the bottom of the supply chain.

She was followed by **Ms. Janyl Moldaliev**, who **thanked the scientific community** in advancing and researching this important topic. She highlighted the need for science to continue informing the work under the Intergovernmental Negotiating Committee (INC) to develop an international legally binding instrument on plastic pollution, including in the marine environment. However, she remarked that data **consistency in measurements remains a challenge**. On the possibility of predictability, it could be beneficial to accelerate science-based innovation to inform future policy actions. She was asked about **takeaways of the World Environment Day, and updates from the INC**. She mentioned that the **World Environment Day demonstrated possible solutions**, them being policy-, innovation- and technology-based. The **key takeaway was the fact that it gave agency to all stakeholders**, and highlighted that **everyone can play a role in tackling plastic pollution**. Another **takeaway was the need to move towards a circular economy**. She remarked the UNEP work on this issue to trigger systems change, saying that **UNEP focus on reducing the problem's size**, eliminating and substituting problematic and unnecessary plastic items, including hazardous additives;

**implementing circularity by design and in practice; and dealing with the plastic waste that cannot be reused or recycled in an environmentally sound manner.** She stated that UNEP works at multiple levels, and gave an example from each of the levels they work with. She mentioned the work within the framework of the INC to protect the **environment and human health** from plastic pollution, and ultimately end plastic pollution.

The subsequent speaker, **Mr. Stéphane Isoard**, underscored the significant relevance of the discussed topic to the **European Environment Agency (EEA)**, emphasizing its role in enhancing the **knowledge base and streamlining data collection**. **Mr. Isoard** reiterated the **importance of the MSFD and existing EU legislation in contributing to comprehensive data monitoring**. He also emphasized the **necessity of conducting a source-to-sea assessment**. **Mr. Isoard** was queried about **potential solutions to the microplastics issue and recommended actions**. He asserted that **all stakeholders bear the responsibility to prevent this issue, as a considerable portion of it is preventable**. The **EEA's** role involves developing indicators and knowledge at the EU level to support marine pollution prevention. Notably, **Mr. Isoard** highlighted that **85% of marine litter comprises plastics**. The **EEA** focuses on both **primary and secondary sources of microplastic pollution**, with a concerning increase observed over the past 6/7 years. Drawing attention to the escalating rate of growth in secondary sources mismanaged at a European level, **Mr. Isoard** mentioned ongoing efforts to assess the extent of pollution in European waters, where **microplastics were found in approximately 75% of all European marine areas**. The **EEA** is also actively engaged in **monitoring and evaluating EU-wide progress toward reduction targets** while **documenting the presence of marine litter in marine environments**. He emphasized the imperative not only to solve the problem but also to prevent it proactively. **Mr. Isoard pointed out the existing gap in EU-level monitoring for intentional and unintentional releases of microplastics** and concluded by highlighting progress made toward defining priority areas.

Finally, **Mr. Aaron Beck** took the floor, concluding by making comments on the statements of the panellists. He commented that **all stakeholders seem to be aligned**, however, the **perception of the circularity of plastics is incorrect**, due to it being inexpensive and pervasive in the society. There's a **need to work with the industry to prevent this problem, since microplastics cannot be sorted**.

## Q&A

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**MEP Chabaud** asked about **collection of data from expeditions**, **Mr. Aaron Beck** replied that there is **cooperation in terms of collecting samples**. She also mentioned the **IPOS** and possible cooperation with it, to which he replied affirmatively. She asked **Ms. Camilla Carteny** about **chemical additives and possible solutions to avoid them**, to which she replied saying that **these additives are necessary in some circumstances**, but **recognized the need for increased transparency and openness of the industry**.

There is another question about **bio plastics and their contribution to microplastic pollution**. **Ms. Emmanuelle Maire** remarked that **no kind of plastic, even bio based plastic, is 'biodegradable' per se without further indications**, despite claims. There is a need to identify the environment and the time needed for biodegradation. Therefore, **the European Commission is very careful when mentioning biodegradable plastics and refers to its Communication on biobased, biodegradable and compostable plastics of November 2022**. **Ms. Camilla Carteny** added that **bio based and biodegradable does not mean the same thing and that biodegradable plastics need to be discarded in the right way**. **Ms. Frédérique Mongodin** concluded saying that some **bio plastics can be even worse than conventional plastics**, due to additives added into the mix.

The final question from **MEP Chabaud** is regarding **polymers and the way that the industry is tackling them**. **Ms. Camilla Carteny** stated that they are **working on identifying which polymers are better for specific uses**, based on available data. The lifecycle assessments parameters created need to go beyond greenhouse gases emissions, to truly be innovative and withstand the test of time, but **the industry supports the implementation of said standards**.

## Closing remarks

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As a closing remark, **MEP Maria Spyraiki** thanked the **investigation from the scientists, highlighting their importance in creating legislation**. She called for a **more holistic approach**, saying there is a need to find **sources and leaks of said plastics** so that this **pollution be mitigated**. She underlined **the concern about the threat that microplastics pose to human health**. **MEP Catherine Chabaud** concluded by saying that **there has been a lot of progress in the last 10 years**. She highlighted the presence of a **plastisphere** in the ground, therefore being necessary legislation to tackle this issue, not only after it exists, but **also prevent it**. There is also a **double-edged sword with the circular economy**, since **it prevents the reducing of the use of polymers**. She concluded reminding that the ocean is a common good, called for **cooperation with the USA**.