

## NAMC Response to the Intergovernmental Negotiating Committee of the Global Agreement on Plastic Pollution

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The aim of this brief is to provide knowledge support to the Minister regarding international negotiations towards a Global Agreement on Plastic Pollution. This brief is submitted on behalf of the NAMC project, with a focus on Pillar 5 Society and Regulation.

### Key messages

1. The social, economic and financial benefits of the agreement will outweigh any immediate costs.
2. For the agreement to be successful there must be clear, agreed and standardised definitions of plastics, or at least a combined understanding of the uncertainty embedded within the terms.
3. The agreement would benefit from rooting in the existing international frameworks, especially to reflect the specificity of different regions and challenges therein. It will require strong and efficient implementation and compliance mechanisms, involving the private and industry stakeholders.
4. Researching past experiences of global pollutants can better frame our approaches for the future.
5. Account should be taken of the variable distribution of the financial gains and losses across the identified countries.
6. Connect to the Science-Policy Panel to Support Action on Chemicals, Waste and Pollution.

### 1. *The social, economic and financial benefits of taking action*

There are significant social, economic, and financial benefits associated with reducing plastic pollution. Coastal waters are particularly vulnerable to plastic pollution owing to their proximity to land-based sources of pollution, the high biological productivity of coastal and estuarine habitats<sup>1</sup>, the prevalence of tourism, aquaculture, and in-shore fisheries that are of value to the economy and society<sup>2</sup>. Global damages related to plastic pollution have been estimated at USD \$13 billion<sup>3</sup> with a **potential to gain an annual \$500–\$2500 billion** in the value of benefits derived from marine ecosystem services<sup>4</sup> if the pressure of marine plastic is reduced.

### 2. *The definition and characterisation of plastic*

Clear definitions of plastics and plastic waste are necessary for understanding the distribution and fate of plastics in the ocean, the environmental and human health effects, and effective designation of policy. **This definition and characterization of plastics is complex and a current challenge for interpretation.** As an example, the quantification of micro- and nano-plastics contains many unsolved issues which must be resolved as a prerequisite to monitoring; for microplastics (MP) there is a focus on the 5mm upper size limit, but the lower size limit of MP hasn't been set, and clearly a 5mm particle is very different to a 100µm particle which again is very different from 1µm. There are several initiatives working on definitions, harmonisation and standardisation within the scientific and international standards community<sup>5</sup>. Projects linking such initiatives are tightly bound within NAMC and the associated institutes, and NAMC is currently researching options to support a clearer understanding of the complexities of marine litter and plastic pollution to generate common and

workable solutions (see schematic 'Addressing the complexities of marine litter and plastic pollution').

### **3. Current governance and connecting a global agreement to regional efforts**

While there is an extensive international governance framework to address different types of pollution ranging from local to global level that addresses the plastic problem<sup>6,7</sup> it is inadequate to respond to the challenges facing the global community. Several studies in the recent years reviewed and provided a comprehensive analysis of the existing instruments, including their shortcomings and gaps in the broader plastic pollution governance system (eg. <sup>7,8,9,10</sup>). These can be summarised in three categories: 1. Coordination (lack of a coordinating institution), 2. Management (lack of globally binding standards), and 3. Assessment (lack of global standards for national monitoring and reporting)<sup>7,9</sup>. A new possible global instrument on the plastic pollution must address these issues.

A global agreement on plastic pollution should take as a point of departure different regional arrangements (such as the UNEP's Regional Seas Convention and Programmes, as summarised by e.g. <sup>6,11</sup> to reflect the variety of challenges and solutions adopted in specific regions. **Adopting a hybrid binding-voluntary framework convention may be a favourable way forward that will ensure that all states, regardless of their development status, will be able to commit and engage in the joint global effort.** The first phases of the framework convention (to be expanded with specific region- and sector-based protocols, annexes or other instruments) should strive for increased interplay with the existing instruments that over time can be incorporated into the global framework. The global instrument (for instance, through its secretariat) could also serve as a platform for sharing experiences and good practises and, in the longer term, harmonising and unifying the global efforts.

**NAMC also encourages inclusion of strong implementation and compliance mechanisms**, in line and based on solutions from other multilateral environmental agreements, such as an implementation and compliance committee (eg. Minamata Convention) or nationally determined contributions (eg. Paris Agreement) in estimated levels of reduction of plastic discharges in relevant sub-categories (type, size, source, secondary and primary microplastics, intentional and unintentional). There is a need for precise and unquestioned definitions and delineating the scope of the agreement in reference to these aspects of plastic pollution. **NAMC is undertaking interdisciplinary research to link the definitional, assessment and policy questions. A robust monitoring and assessment component (eg. modelled on the AMAP working group of the Arctic Council) that would ensure state-of-the-art scientific knowledge and a continuous science-policy interaction to assist the implementation is highly recommended.**

Furthermore, in our view, it is essential to include elements promoting sustainable consumption and production across the life cycle of plastics<sup>9</sup> to provide for incentives and benefits from a global plastic circular economy. This in our view, requires close cooperation with the private sector such as plastic producers, large plastic users and waste management industry to include the views of the relevant stakeholders, especially in reference to implementation and compliance. **NAMC endorses the approach that such an agreement should include elements that will ensure a stable and sustained framework, embracing all stages of plastic life cycle and the value chain (upstream, midstream, and downstream) and will incorporate the circular economy path.**

### **4. What can be learnt from other global pollutants?**

Today, several governmental establishments across the globe are in collaboration for regulating several hazardous substances, and many research and governance organizations provide valuable data regarding the regulations of these substances, scientific classifications, and human exposure. Current research in NAMC is taking a **structured approach to comparing marine pollution to other recognized global contaminants that have been encompassed by international regulations,**

including – but not limited to SO<sub>2</sub>, CFCs, asbestos, persistent organic pollutants (such as “the dirty dozen” from the Stockholm Convention), mercury and lead, and to see if there are lessons which could be learned from previous global regulation. NAMC will employ the vast information pool gathered by the international community over the years on other hazardous substances to construct a knowledge base for marine plastic regulations. In this regard, we are currently building a database containing various pollutants coded according to, for example: their substance groupings (e.g., POPs, PAHs, PBDEs); hazard classifications; degree of regulation; economic impact of regulation; availability and benefits offered by substitutes; technological solutions available and the price of these; whether the regulation succeeded. In the second phase of the analysis we will utilize the database to conduct a meta-regression for determining the recommended level of regulations for marine pollution based on the existing information and regulations on other pollutants. This work is scheduled for completion in June 2022.

### ***5. The Importance of global modelling to develop an effective and efficient Global Agreement***

Understanding plastic pollution requires research into the drivers bringing plastics to the environment and spreading it from local to international waters. In this way, **plastic emissions from a given country may be incurred by one or more other countries**. Translating this into costs will play an important role in developing an effective global agreement, leading researchers on this topic are incorporated within NAMC. A combination of observations and modelling can assist in identifying where the greatest damage costs will be incurred, and where the plastic likely came from<sup>12</sup>

Efforts to develop a coordinated, international agreement must account for the movement of plastic through rivers, estuaries, shelf seas and the open ocean, which can result in **damage costs (e.g., to wildlife and citizens) associated with plastic emissions from a given country being incurred by one or more other countries**. Damage costs to each country will likely depend on (i) the total volume and type of plastic waste in the sea, (ii) ocean circulation patterns, (iii) exposure (e.g., length of coastline; vulnerability of coastal ecosystems; relative importance of coastal economy), (iv) localised use of coastal resources and attendant effects of marine plastic pollution on welfare, and (v) values lost by residents of a country as a result of marine plastic effects on other countries.

Like other international pollution control problems where the environmental damages and required emissions reduction actions are asymmetrically distributed across countries (e.g., as was the case with sulphur dioxide emissions and acid rain in Europe in the 1980s), a multilateral environmental agreement (MEA) would allow countries to explore opportunities for a cooperative solution to reduce plastic pollution. The net payoff to any one country from costly abatement actions, which reduce their own emissions of plastic into the oceans, depend on the actions of other countries in reducing their plastic emissions as well. The unequal distribution of emissions reduction that this cooperative solution requires implies, however, that some countries are likely to lose out from this cooperative solution, even though the total net benefits from international cooperation across all countries are positive. **Losing out at the individual country level from a specific control programme makes it unlikely that some countries would willingly participate, unless a mechanism can be found to offset these country-level net costs**. An effective MEA takes account of the distribution of the financial gains and losses across the identified countries. **A benefit-oriented cost sharing approach built into an MEA can be used to identify ways to address equity considerations in the context of international marine plastic pollution abatement**.

### ***6. Connection to the draft resolution to establish a Science-Policy Panel to Support Action on Chemicals, Waste and Pollution***

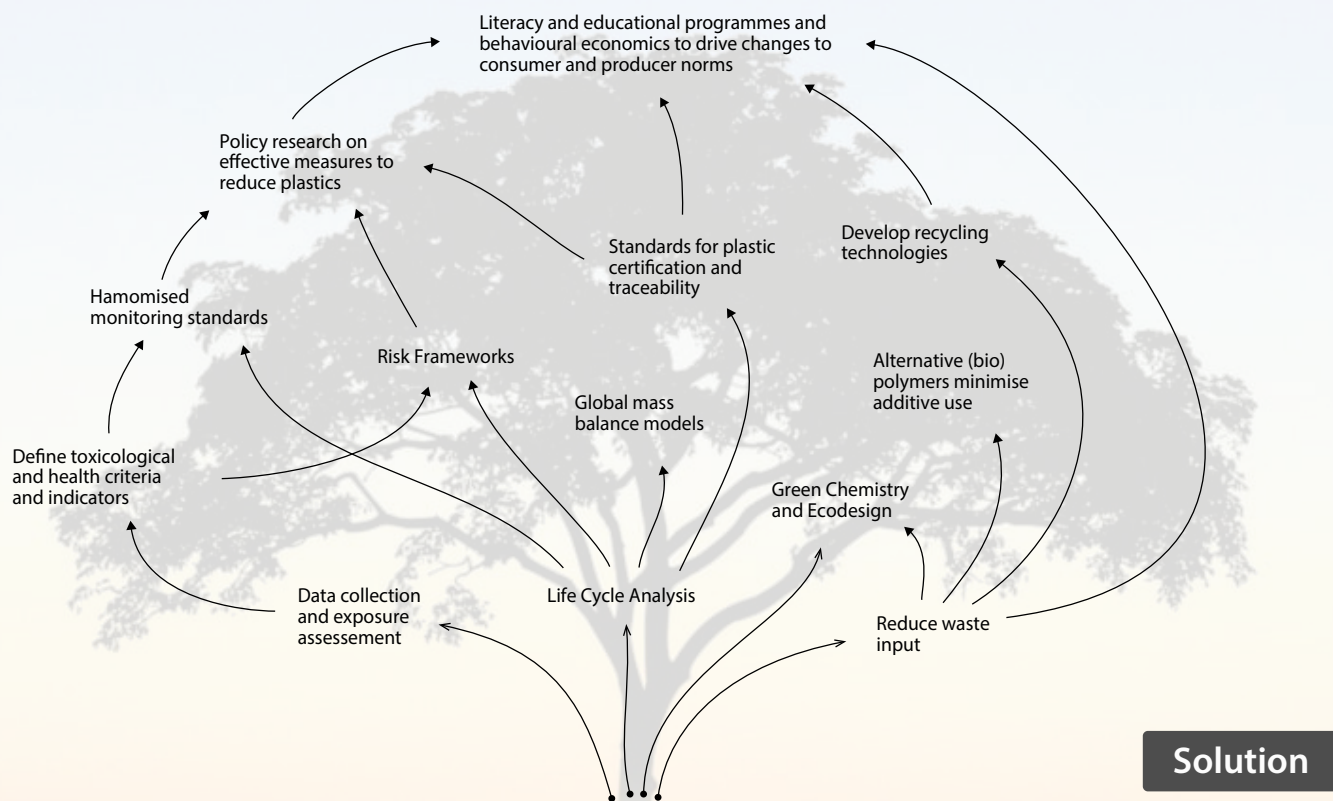
Microplastics are a component of chemical pollution and the complexities they pose require a collective voice to synthesise scientific knowledge and monitor progress. A clear understanding of the trajectories of plastic pollution sources, stocks and impacts, and how these trajectories are influenced

by our actions, is considered key to the success of the agreement. NAMC welcomes Norway's co-sponsorship of the Draft resolution for a Science-Policy Panel to support action on chemicals, waste and pollution and can provide scientific and technical expertise to the government in the Panel implementation phase. This panel will be particularly important in the light of addressing the significant scientific complexities and technical challenges surrounding plastic pollution, as such it is recommended that the Global Agreement closely connects to the establishment of this panel.

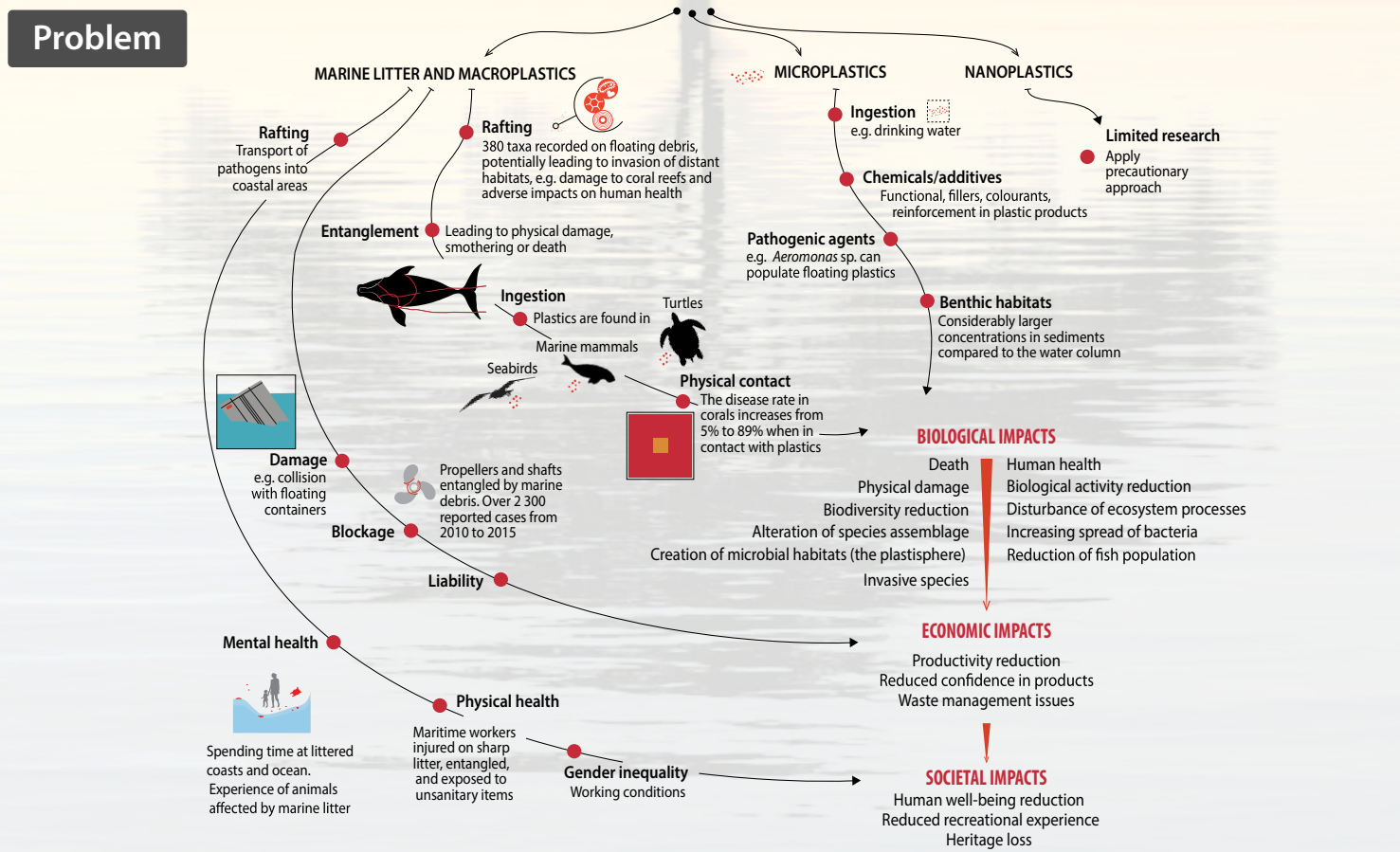
## References

- <sup>1</sup> UNEP 2014, "Valuing plastics: the business case"
- <sup>2</sup> Defra Evidence Statement 2019 07.
- <sup>3</sup> Xanthos & Walker, 2017 Mar. Poll. Bull. 118:17–26.
- <sup>4</sup> Beaumont et al. 2019 Mar. Poll. Bull. 142:189-195.
- <sup>5</sup> Citation: The National Academies of Sciences, Engineering, and Medicine. 2021. Reckoning with the U.S. Role in Global Ocean Plastic Waste. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26132>
- <sup>6</sup> SAM (2018). 'Microplastic Pollution: The Policy Context - Background Paper', The Scientific Advice Mechanism Unit of the European Commission, 68 p. web version.
- <sup>7</sup> UNEP (2017). Combating marine plastic litter and microplastics: An assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches. UNEP/EA.3/INF/5. 5 October 2017.
- <sup>8</sup> Busch, P. O., Schulte, M. L., & Simon, N. (2021). *Strengthen the global science and knowledge base to reduce marine plastic pollution*. Nordic Council of Ministers.
- <sup>9</sup> Raubenheimer, K. and N. Urho (2020). Possible elements of a new global agreement to prevent plastic Pollution. TemaNord 2020:535. Nordic Council of Ministers. URL: <http://dx.doi.org/10.6027/temanord2020-535>.
- <sup>10</sup> Wienrich, N., Weiland, L., & Unger, S. (2021). Stronger together: The role of regional instruments in strengthening global governance of marine plastic pollution.
- <sup>11</sup> Akiwumi, P., & Melvasalo, T. (1998). UNEP's Regional Seas Programme: approach, experience and future plans. *Marine Policy*, 22(3), 229-234.
- <sup>12</sup> Clark, J.R., Cole, M., Lindeque, P.K., Fileman, E., Blackford, J., Lewis, C., Lenton, T.M. and Galloway, T.S., 2016. Marine microplastic debris: a targeted plan for understanding and quantifying interactions with marine life. *Frontiers in Ecology and the Environment*, 14(6), pp.317-324.

# A problem/solution tree schematic addressing the complexities of marine litter and plastic pollution



## Marine litter and plastic pollution



Problem figure source: UNEP (2021). From Pollution to Solution: A global assessment of marine litter and plastic pollution. Nairobi.