

The role of the principle of common but differentiated responsibility in regulating pollution of the marine environment from post-consumer plastic wastes from land-based sources

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1. Introduction

Presence of plastics in the marine environment is a growing concern due to their persistence and impact on the oceans, marine life and, potentially, humans. Plastics are found on coastlines, on the sea floor, sea surface and in the frozen Arctic ice.¹

Pollution of the oceans from land-based sources is a very broad and complex problem. There is a wide range of sources where plastic waste come from, such as: dumping, land-based sources and discarded fishing gear. Pollution from sources located on land have diverse origin, and it may come from, for example, industry or post-consumer wastes. Plastics flow to the oceans through rivers, are washed up on shores or are thrown into water on purpose.²

Land-based pollution of the oceans is considered to be one of the biggest challenges of our times. Such pollution originates from two sources: first, substances and energy originating from land, river or pipelines and second, pollution through the atmosphere.³ It is one of the most difficult kinds of pollution to combat, it remains in the scope of State's territorial jurisdiction and requires far-reaching restrictions and regulations on wide range of activities within State's territories. This kind of pollution of the oceans is an example of 'tragedy of commons'.⁴

One of the significant aspects of the land-based pollution of the oceans, is pollution with plastics. The term 'plastics' refers to a group of synthetic polymers. Plastics play a great role in economic and social development and offer great

¹ Jambeck J. R., Geyer R., Wilcox C, Siegler T. R., Perryman M., Andrady A., Narayan R., Law K. L. (2015) Plastic waste inputs from land into the ocean, *Science* 347 (6223), p. 768

² Chen C.-L. (2015) Regulation and Management of Marine Litter, *Marine Anthropogenic Litter* edited by Bergmann M., Gutow L., Klages M., Springer open, p. 396

³ Sands P., Peel J. (2018) *Principles of International Environmental Law*, Fourth Edition, Cambridge: University Printing House, p. 476

⁴ Rothwell D. R, Stephens T. (2016) *The international law of the sea*, Second Edition, Oregon: Hart Publishing, p. 407;

possibilities to humanity. Contemporarily plastics are used in many aspects of human life, such as health and food sector or transportation, on the other hand, they generate significant cost for society, economy and ecology.⁵ Post-consumer plastic waste contributes largely to global amount of marine plastic debris.⁶

Plastics cause significant threat to marine environment, marine animals get entangled in plastics floating in the oceans, and this causes hindrance of their ability to feed, move or breathe. The further threat is ingestion of plastics, which may cause direct death of marine species or accumulate in stomachs and affect individual fitness of animals, which can cause further consequences such as reproduction or survival issues.⁷ The entanglement in plastics affects and increasing number of species, the data shows that it applies to 100 % of marine turtles (7 of 7 species), 67 % of seals (22 of 33 species), 31 % of whales (25 of 80 species) and 25 % of seabirds (103 of 406).⁸ On the other hand, ingestion of plastics affects 100 % of marine turtles (7 of 7 species), 59 % of whales (47 of 80), 36 % of seals (12 of 33), and 40 % of seabirds (164 of 406).⁹ The above numbers present the great and common threat that plastics cause in the marine environment.

⁵ UNEP (2016) Marine plastic debris and microplastics – Global lessons and research to inspire action and guide policy change. United Nations Environment Programme, Nairobi, p. 3

⁶ Chen C.-L. (2015) Regulation and Management of Marine Litter, p. 396

⁷ Kühn S., Bravo Rebolledo E. L. and van Franeker J. (2015) Deleterious Effects of Litter on Marine Life, Marine Anthropogenic Litter, p. 76

⁸ *Ibidem*, p. 77

⁹ *Ibidem*, p. 85

Figure 1. Sea bird died from ingestion of post-consumer plastic waste¹⁰



Photograph: Dan Clark/USFWS/AP

Figure 2. Plastic bags removed from the pilot whale stomach, which was found dead near Thailand's coast¹¹



THAIWHALES / AFP - GETTY IMAGES

¹⁰ Devlin H., Seabirds eat floating plastic debris because it smells like food, study finds, available at: <https://www.theguardian.com/environment/2016/nov/09/seabirds-eat-floating-plastic-debris-because-it-smells-like-food-study-finds-algae-sulfur>

¹¹ Nace T., Whale Died Of Starvation After Eating 80 Plastic Bags Off Thailand's Coast available at: <https://www.forbes.com/sites/trevornace/2018/06/04/whale-died-of-starvation-after-eating-80-plastic-bags-off-thailands-coast/#135459526c31>

The other kind of threat are microplastics. Microplastics are small plastic particles, which are smaller than five millimetres, they may originate from two sources: those manufactured on purpose for specific industrial or domestic use or those that are formed from the defragmentation of larger plastic items.¹² Microplastics diffused around world's oceans, they can be easily found in shorelines, on seabed, beaches, on the sea surface and frozen in ice. They spread even in such remote areas as Arctic and Antarctic, where they get transported by currents and winds. Microplastics preserve in marine environment due to their highly persistent nature. Pollution of marine environment with microplastics is recognized as emerging global problem, affecting marine organisms.¹³ Microplastics are often mistaken by marine organisms with food, ingestion of microplastics cause chemical and physical harm. The mechanical effects of ingestion of microplastics may clog the digestive tract, the chemical harm can cause inflammation, hepatic stress or decreased growth.¹⁴

The focus of this thesis is on post-consumer plastic waste, this term is not defined in international legal acts, however for the purpose of this thesis, it should be understood as plastics, which are 'the part of the waste stream that individuals and households dispose of, rather than recycling or reusing in some manner'.¹⁵ Post-consumer plastic waste contribute largely to the global amount of plastics that enter marine environment.¹⁶

This thesis determines which international legal means apply to combating pollution of the oceans from land with post-consumer plastic waste. The thesis provides a short overview of global legal means and applicable principles of international environmental law. There are a number of regional and domestic regulations that apply

¹² Auta H.S., Emenike C.U, Fauziah S.H (2017) Distribution and importance of microplastics in the marine environment: A review of the sources, fate, effects, and potential solutions, *Environmental International* 102, p. 166

¹³ *Ibidem*, p. 166

¹⁴ *Ibidem*, p. 169

¹⁵ Maycroft N. (2012) Post-Consumer Waste, In: *Encyclopedia of Consumption and Waste: The Social Science of Garbage*, [pdf] Thousand Oaks: SAGE Publications, Inc., p. 2, available at: <http://sk.sagepub.com/reference/consumption-waste/n267.xml>

¹⁶ Brooks A. L., Wang S., Jambeck J. R. (2018) The Chinese import ban and its impact on global plastic waste trade. *Sci. Adv.* 4, p. 1

to marine plastic pollution issues, however due to limitations and restrictions that this thesis is subject to, the focus is on global regulations. Furthermore, due to a scope of the main research question, which focuses on application of international principle and global responsibilities for marine pollution with plastic waste, analysis is limited to the international regulations.

Pollution with plastic wastes is a global issue, it crosses cultural, geographical and jurisdictional boundaries. Post-consumer plastic wastes are spread by winds and ocean currents, it is a problem of international nature.¹⁷ The transboundary aspect of this issue potentially generates difficulties in determining responsibility and sharing the burden of the environmental, economic and social consequences.

This thesis focuses on international legal means that are applicable to combating marine plastic pollution. There is an increasing awareness of the threat of marine plastics pollution, however, legal means are not following up on tackling the threat and legal framework still remains with multiple gaps and is difficult to enforce.¹⁸ Pollution with post-consumer plastic waste is a major problem that affects globally and the contribution to this developing threat varies significantly among states. The top ten polluters are middle-income states, however effects of pollution of marine environment with post-consumer plastic waste affect all humankind.¹⁹ The question arises, how is the responsibility distributed and what duties should or could be applied on high-income states, which dispose of more developed technology, in order to prevent further pollution and reduce the threat to marine environment. On this ground arises the main research question:

What is the role of the principle of common but differentiated responsibility in regulating pollution of the marine environment from post-consumer plastic wastes from land-based sources?

¹⁷ Raubenheimer K., McIlgorm A. (2018) Can the Basel and Stockholm Conventions provide a global framework to reduce the impact of marine plastic litter?, *Marine Policy*, p. 2

¹⁸ *Ibidem*, p. 2

¹⁹ Shmidt C., Krauth T., Wagner S. (2017) Export of plastic debris by rivers into the sea, *Environmental science and technology*, 2017, 51, p. 12250 - 12252

1.1. Methodology

The methodology adopted in this paper will not be limited to a ‘black letter law’ approach. The scope of this thesis is connected with social and environmental aspects, and for that reason usage of doctrinal methodology solely would not be adequate. It would limit the research to analysis of international regulations and comments of scholars and would not allow for the insights into disciplines other than law.²⁰ The analysis will provide a brief examination of factual background of land-based pollution with plastic waste and its environmental, economic and social impacts. In order to achieve that, the analysis will shortly present results of a literature review on these impacts from environmental studies. Further, research will focus on international legal instruments that apply to pollution of marine environment with post-consumer plastic waste. It will provide an overview of applicable provisions and comments of scholars.

This thesis will focus on the international principle of common but differentiated responsibility and how it operates in the context of pollution of marine environment with plastic waste. The attempt to answer this question will be made after defining and presenting both: the principle and post-consumer plastic waste in the marine environment. The main research question is constructed in such way that it cannot be answered without looking at the problem in a wider context.

In order to answer the main research question aside of the literal interpretation of relevant principles and provision in this thesis doctrinal approach will be taken. The aim is to see what is the impact of international regulations on shared responsibility for pollution of marine environment with post-consumer plastic waste. Therefore, the insight to other disciplines to such extent that it would allow to define the problem and its impacts and will provide an introduction to legal analysis.

The main research question was asked in such manner that the answer will explain the current legal and factual status and in conclusions will consider suggestions on what can be changed in the international rules in order to improve division of responsibility for marine plastic pollution from land-based sources. Therefore, as this thesis is to some extent present how international regulations apply to actual distribution

²⁰ Hutchinson T. (2015) The Doctrinal Method: Incorporating Interdisciplinary Methods in Reforming the Law, *Erasmus Law Review* 8, p. 131

of responsibility among States and what are the shortcomings in that field, it will consider *de lege ferenda* research, next to *de lege lata*.

2. Legal framework applicable to pollution of marine environment with post-consumer plastic waste from land-based sources

The following Chapter will provide an overview of legal framework that applies to pollution with post-consumer plastic wastes, the protection and preservation of marine environment from this pollutant from land-based sources. The overview will focus on principles of international environmental law that applies to protection of marine environment from post-consumer plastic wastes from land-based activities and global international legal means such as treaties and soft law instruments.

2.1. Principles of international environmental law applicable to pollution of marine environment with post-consumer plastic waste

The legal status and the contents of principles is less clear than international rules due to their open-textured and general character.²¹ However, the principles of international environmental law and their applicability and existence were recognized by the arbitral tribunal.²² These principles apply to all members of international community and to the range of activities that are carried out or authorized by them. They also apply to protection of every aspect of the environment.²³ There is no catalogue of generally agreed principles governing marine environmental protection, however principles applicable in general to the environment were identified by Sands and Peel:²⁴

- 1) states sovereignty over natural resources and the responsibility not to cause transboundary environmental damage (the ‘no harm’ principle);
- 2) the principle of preventive action,
- 3) the principle of cooperation,
- 4) the principle of sustainable development,

²¹ Tanaka Y., Principles of international marine environmental law, p. 31

²² Sands P., Peel J., Principles of International Environmental Law, p. 198

²³ *Ibidem*, p. 198

²⁴ Tanaka Y., Principles of international marine environmental law, p. 31

- 5) the precautionary principle;
- 6) the polluter pays principle;
- 7) the principle of common but differentiated responsibility.²⁵

Tanaka recognizes that the ‘no harm’ principle, the precautionary principle, the concept of sustainable development, the principle of cooperation and the principle of common but differentiated responsibility, are pillars of the international law of marine environmental protection.²⁶ Following the above, the short overview of the first four principles will be provided below, however the principle of common but differentiated responsibility will be presented in the next Chapter.

States’ sovereignty over their natural resources and their responsibility not to cause transboundary environmental damage, the ‘no harm’ principle, is recognised in the Principle 21 of the Stockholm Declaration and the Principle 2 of the Rio Declaration.²⁷ This principle requires States to protect the environment in the areas beyond their jurisdiction, it applies not only to areas under other States’ jurisdiction but also to the high seas or the atmosphere. The principle is also recognized by the Article 194 (2) of UNCLOS²⁸, which states that ‘States shall take all measures to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention’. The obligation under this principle is an obligation of due diligence, which means an application of best environmental practices.²⁹ The latter is defined in the OSPAR Convention as ‘the application of the most appropriate combinations of environmental control measures’.³⁰

Best environmental practices and available techniques are not easy to identify. Due to a differing political, economic, technological and technical conditions between states and regions, the standards may differ. Furthermore, it may be difficult for

²⁵ Sands P., Peel J. Principles of International Environmental Law, p. 198

²⁶ Tanaka Y., Principles of international marine environmental law, p. 34

²⁷ Sands P., Peel J., Principles of International Environmental Law, p. 201

²⁸ Tanaka Y., Principles of international marine environmental law, p. 38

²⁹ *Ibidem*, p. 39

³⁰ Paragraph 6 of Appendix I of the OSPAR Convention (entered into force 25 March 1998), 2354 UNTS 67

developing states to use best known environmental practices and available techniques. Thus, it is important that developed states offer assistance and capacity building to developing countries in order to comply with this obligation.³¹

The principle of sustainable development was first recognized in a treaty in the Preamble to the 1992 Agreement on the European Economic Area (the EEA Agreement).³² It was defined in the Report of the World Commission on Environment and Development (WCED),³³ under this definition the sustainable development means ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’.³⁴ The concept of sustainable development is a reflection of inter-generational equity.³⁵ Nowadays, the idea of sustainable development is incorporated into increasing number of treaties and other - non-binding documents relating to the protection and preservation of marine environment.³⁶ Sands and Peel list four elements of sustainable development: 1) the need to preserve natural resources for the benefit of future generations (the principle of intergenerational equity), 2) the aim of exploiting natural resources in a ‘sustainable’, ‘prudent’, ‘rational’, ‘wise’ or ‘appropriate’ manner (the principle of sustainable use), 3) the ‘equitable’ use of natural resources, which implies that use by one state must take account of the needs of other states (the principle of equitable use, or intergenerational equity), 4) the need to that environmental considerations are integrated into economic and other development plans, programmes and projects, and that development needs are taken into account in applying environmental objectives (the principle of integration).³⁷

Sustainable development is in a scope of domestic policy of each State,³⁸ the General Assembly in 2002 called upon States to prioritise actions on marine pollution from land based sources and to implement Global Programme of Action for the

³¹ Tanaka Y., Principles of international marine environmental law, p. 39

³² Sands P., Peel J., Principles of International Environmental Law, p. 218

³³ Report of the World Commission on Environment and Development, Our Common Future (1987), p. 43

³⁴ *Ibidem*, p. 43

³⁵ Tanaka Y., Principles of international marine environmental law, p. 46

³⁶ *Ibidem*, p. 47

³⁷ Sands P., Peel J., Principles of International Environmental Law , p. 219

³⁸ Tanaka Y., Principles of international marine environmental law, p. 48

Protection of the Marine Environment from Land-based Activities as a part of their national sustainable development strategies.³⁹ Therefore, the application of the sustainable development to the post-consumer plastic waste lies with States and their national policies.

The precautionary principle or approach seeks ‘to ensure the taking of early action in order to address serious environmental threats which may emerge in cases where there is on-going specific uncertainty covering proof of cause and effect.’⁴⁰ The precautionary approach is reflected in the Principle 15 of the Rio Declaration, which provides that ‘in order to protect the environment, the precautionary approach shall be widely applied’. This principle is not reflected in UNCLOS, however the precautionary approach is placed in Article 2(2)(a) of the OSPAR Convention or in Article 3(2) of the 1992 Convention on the Protection of Marine Environment of the Baltic Sea. Precaution in relation to pollution with post-consumer waste is highly relevant. This type of pollution is relatively new to marine environment and all possible consequences are not discovered yet.⁴¹

The last principle is the principle of cooperation, is reflected in the Principle 27 of the Rio Declaration, which obliges states to ‘cooperate in good faith and in spirit of partnership in the fulfilment of the principles embodied in this Declaration’. Further the Principle 24 of the Stockholm Convention provides that ‘the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big and small, on an equal footing. Cooperation (...) is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States’. Protection of the marine environment is a transboundary problem that cannot be performed by single state, for that reason the international cooperation is considered to be a prerequisite to marine environmental

³⁹ Raubenheimer K., Towards an improved framework to prevent marine plastic debris (2016) Doctor of Philosophy thesis, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong, p. 13-14

⁴⁰ Tanaka Y., Principles of international marine environmental law, p. 40

⁴¹ Ryan P. G., A Brief History of Marine Litter Research, 2015 , Marine Anthropogenic Litter edited by Bergmann M., Gutow L., Klages M., Springer open, p. 2

protection.⁴² The principle is reflected directly in a number of provisions of UNCLOS such as Article 117, Article 197 or Article 199. Article 207(4) of UNCLOS comprises an indirect obligation for states to cooperate in protection of marine environment from land-based pollution.⁴³

2.2. International legal framework applicable to pollution of marine environment with post-consumer plastic waste from land-based sources

The following sub-chapter will provide an overview of international legal instruments that apply to pollution of marine environment with post-consumer plastic waste from land-based sources. First there will be presented international legally binding instruments and further soft law instruments that apply to this type of pollution. Provisions from the following instruments will be presented:

- 1) the 1982 United Nations Convention of Law of the Sea (UNCLOS),
- 2) the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses,
- 3) the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal,
- 4) the 2001 Stockholm Convention on Persistent Organic Pollutants,
- 5) the 1995 Global Programme of Action for the Protection of the Marine Environment from Land-based Activities,
- 6) the 2011 Honolulu Commitment and Honolulu Strategy.

The United Nations Convention of Law of the Sea addresses protection and preservation of marine environment from plastic pollution from land- and sea-based sources.⁴⁴

Article 1(1)(4) of UNCLOS defines pollution of the marine environment as ‘the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious

⁴² Tanaka Y., Principles of international marine environmental law, p. 52

⁴³ *Ibidem*, p. 52

⁴⁴ Raubenheimer K., McIlgorm A., Can the Basel and Stockholm Conventions provide a global framework to reduce the impact of marine plastic litter?, p. 2

effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities'. Plastics from land based sources are covered with this definition, they are substances introduced by man directly and indirectly to the marine environment and they cause harm to marine life. Therefore, even when UNCLOS does not refer directly to plastics, relevant provisions apply to this type of pollution.

UNCLOS regulates protection and preservation of marine environment in Part XII of the Convention. UNCLOS is the only international legally binding instrument, which provides an obligation to prevent marine environment from pollution from land-based sources.⁴⁵ The first provision of this part puts a general obligation upon State parties to 'protect and preserve the marine environment'⁴⁶. This Article is constructed in such manner that no specific obligation of State Parties can be indicated. However, it gives an opportunity to apply this provision more generally to reinforce States obligation to comply with further provision of this Part and other possible aspects of protection and preservation of marine environment. Provisions of Article 192 of UNCLOS are also applicable in the context of combating pollution with plastics from land-based sources.

Further, Article 194 implies on State parties an obligation to take all necessary measures to 'prevent, reduce and control pollution of the marine environment from any source' whether individually or jointly. Further it obliges States to take all measures necessary 'to ensure that activities under their jurisdiction or control' are conducted in such manner that do not cause damage to other State's environment.⁴⁷ The scope of pollutants applicable to the above is not specified, however there are enlisted examples of sources of pollution, for instance 'release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources'.⁴⁸ Above provision can be interpreted as an obligation of States to preserve marine environment from pollution with post-consumer plastic waste from land-based sources. Plastics are considered to be

⁴⁵ Raubenheimer K., Towards an improved framework to prevent marine plastic debris, p. 94

⁴⁶ Article 192 of 1982 the United Nations Convention of Law of the Sea (UNCLOS)

⁴⁷ UNCLOS, Article 194

⁴⁸ UNCLOS, Article 194 (3)(a)

harmful, toxic and noxious substances to marine environment, hence these provisions apply.⁴⁹

A direct obligation to prevent marine environment from pollution from land is provided in Article 207 of UNCLOS. Provisions of this Article put an obligation on States to adopt laws and regulations providing prevention, reduction and control of pollution of marine environment from land-based sources. Those regulations apply to rivers, estuaries, pipelines and outfall structures and consider ‘internationally agreed rules, standards and recommended practices and procedures’.⁵⁰ Furthermore, States through competent international organizations or diplomatic conference are obliged to aim for establishing ‘global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources’.⁵¹ Those rules and standards shall include specific provisions regarding the release of toxic, harmful and noxious substances from land-based sources, especially those ‘which are persistent, into the marine environment’.⁵² Currently there are eighteen Regional Seas Programmes, six of which have already adopted Protocols for land-based sources of pollution and other four are pending. Therefore, eight regions do not have any legally binding agreement that applies to pollution of marine environment with plastic waste from land-based sources.⁵³

Article 213 of UNCLOS provides an obligation that states ‘shall enforce their laws and regulations adopted in accordance with article 207’ and that they shall adopt further laws and regulations and take appropriate measures ‘to implement applicable international rules and standards established through competent international

⁴⁹ United Nations Environment Assembly of the United Nations Environment Programme; Combating marine plastic litter and microplastics: An assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches, p.27

⁵⁰ UNCLOS, Article 207 (1)

⁵¹ UNCLOS, Article 207 (4)

⁵² UNCLOS, Article 207 (5)

⁵³ Rubenheimer K., McIlgorm A. (2017) Is the Montreal Protocol a model that can help solve the global marine plastic debris problem?, Marine Policy 81, p. 1

organizations or diplomatic conference to prevent, reduce, and control pollution of the marine environment from land-based sources'.⁵⁴

Article 207 (1) of UNCLOS requires that states adopt laws and regulations taking into account internationally agreed rules and standards and recommended practices and procedures. The international rules and standards in this respect are the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses (UN Watercourses Convention), the Ramsar Wetlands Convention and the Convention on Biological Diversity. However, the only legally binding international agreement that regulates protection of marine environment from pollution from land-based sources, other than UNCLOS is the UN Watercourses Convention.⁵⁵ This Convention applies to a limited geographical scope, which is 'system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus'.⁵⁶ The Convention puts states under obligation to individually or jointly protect or preserve the ecosystems of international watercourses.⁵⁷ The further obligation is to 'prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment, including harm to human health or safety, to the use of the waters for any beneficial purpose or to the living resources of the watercourse'.⁵⁸ The Convention does not expressly apply to pollution from land-based sources with post-consumer plastic waste or plastic waste in general, however the wording of the above provisions leads to the conclusion that such pollution remains in the scope of the Convention.

Further, the relevant international instrument to post-consumer plastic waste management is 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal ('The Basel Convention'). The Convention generates an obligation for states to reduce and minimize their generation of plastic

⁵⁴ Article 213 of UNCLOS

⁵⁵ Raubenheimer K., Towards an improved framework to prevent marine plastic debris, p.95

⁵⁶ 1997 Convention on the Law of the Non-navigational Uses of International Watercourses, Article 2(a)

⁵⁷ Article 20 of 1997 International Watercourses Convention,

⁵⁸ Article 21 of 1997 International Watercourses Convention,

waste⁵⁹. Plastics are classified as ‘other waste’, however if they display certain defined features they are perceived as ‘hazardous’. According to the Convention states may list plastic waste as hazardous within domestic legislation and from that point trade of plastic with this party is prohibited⁶⁰. Restrictions are also applying to exporting states, such party cannot permit trade of plastics with states towards which there is a ‘reason to believe that the wastes in question will not be managed in an environmentally sound manner.’⁶¹ However, export is allowed from states, which do not have technical capacity to manage plastic waste in environmentally sound and efficient manner. Trade is also allowed when plastics are required as a raw material for recycling or recovery.⁶² Notwithstanding the above, trade should be ‘reduced to a minimum’⁶³ and plastics that are not a subject to export should be disposed in adequate facilities, for the environmentally sound management.⁶⁴ The Basel Convention stipulates two options for plastic waste disposal: landfill and incineration, however, recycling is the most preferable option.⁶⁵

The 2001 Stockholm Convention on Persistent Organic Pollutants was agreed in order to reduce and eliminate emissions and discharges of persistent organic pollutants (POPs). POPs are toxic, persistent and bioaccumulative chemicals.⁶⁶ In Preamble the Convention determines the important role of manufacturers in ‘reducing adverse effects caused by their products and providing information to users, Governments and the public on the hazardous properties of those chemicals.’⁶⁷ According to above, the potential

⁵⁹ Article 4(2) of 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

⁶⁰ Raubenheimer K., McIlgorm A., Can the Basel and Stockholm Conventions provide a global framework to reduce the impact of marine plastic litter, p. 3

⁶¹ Article 4(2)(e) of 1989 Basel Convention

⁶² Article 4(9) of 1989 Basel Convention

⁶³ Article 4(2)(d) of 1989 Basel Convention

⁶⁴ Article 4(2)(b) of 1989 Basel Convention

⁶⁵ Raubenheimer K., McIlgorm A. Can the Basel and Stockholm Conventions provide a global framework to reduce the impact of marine plastic litter?, p. 3

⁶⁶ *Ibidem*, p. 3

⁶⁷ Preamble of 2001 Stockholm Convention on Persistent Organic Pollutants

hazard of plastic products is restricted by the Convention in the design phase.⁶⁸ States can reduce the quantity of plastics containing POPs, by regulating the import and export of plastics containing these substances and POPs destined for use in manufacture of plastics.⁶⁹ Annex A lists, among others, POPs that may be used in production of plastics, parties are obliged to eliminate those substances by regulating their production, use, export and import.⁷⁰ The Convention applies only to plastics that contain POPs or are contaminated with these substances. Therefore, it has limited application to post-consumer plastic wastes, in particular in reference to food packaging that is strictly regulated and it is very unlikely that it would contain POPs.⁷¹

There is a number of soft law instruments that apply to combating marine plastic pollution. The Stockholm Declaration provides in Principle 7 an obligation to all states to ‘take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea’. Plastic, due to its hazardous nature to marine environment and human health shall remain in the scope of this principle. Further, the Principle 21 applies an obligation to ensure that activities undertaken within territories under states jurisdiction do not cause harm to other states or areas beyond states jurisdiction. Plastic pollution is a transboundary problem, it applies to both areas under other states jurisdiction and to areas beyond any jurisdiction.⁷²

Further, the two most relevant soft law instruments in relation to land-based marine plastic pollution are 1985 Montreal Guidelines on Protection of the Marine Environment against Pollution from Land-Based Sources (the Montreal Guidelines) and the 1995 Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA).

The Montreal Guidelines provide governments with a recommendatory checklist in order to assist in developing national legislations and international instruments for

⁶⁸ Raubenheimer K., McIlgorm A., Can the Basel and Stockholm Conventions provide a global framework to reduce the impact of marine plastic litter?, p. 3

⁶⁹ *Ibidem*, p. 3

⁷⁰ *Ibidem*, p. 3

⁷¹ *Ibidem*, p. 3

⁷² Stockholm Declaration, Principle 21

controlling land-based pollution. The Guidelines are very general and they leave states with broad scope to set control strategies and marine environmental quality goals. In the spirit of further development, in 1995 the GPA was adopted by 108 states during the conference placed in United States and sponsored by UNEP, the Guidelines were viewed as advisory in the context of developing the new instrument.⁷³ The GPA was adopted in order ‘to be drawn upon by national and/or regional authorities in devising and implementing sustained action to prevent, reduce, control and/or eliminate marine degradation from land-based activities’.⁷⁴ The GPA calls for regional cooperation and actions that aim to reduce marine pollution from land based sources.⁷⁵

Further, in March 2011 during the Fifth International Marine Debris Conference in Honolulu, participants agreed and adopted Honolulu Commitment and Honolulu Strategy.⁷⁶ The Strategy – a Global Framework for Prevention and Management of Marine Debris provides a framework with comprehensive information about the sources of marine litter and guidance for implementation at the global, regional and, national and local levels.⁷⁷

In summary, there are not any existing international legally binding instruments that deal particularly with pollution of marine environment with post-consumer plastic waste. However, more general instruments apply to this type of pollution. The existing soft law instruments play important role in providing states with global and regional aims to reduce pollution of oceans with post-consumer plastic waste. States are encouraged to develop domestic and regional regulations that would have positive impact on reduction of post-consumer plastic waste that enter marine environment.

⁷³ VanderZwaag D. L., Wells P. G., Karau J., The Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities: A Myriad of Sounds, Will the World Listen? (1998) 13 Ocean Yearbook, p. 184

⁷⁴ UNEP (OCA)/LBA/IG.2/7, Par. 14.

⁷⁵ VanderZwaag D. L., Wells P. G., Karau J., The Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities: A Myriad of Sounds, p. 187

⁷⁶ Raubenheimer K., Towards an improved framework to prevent marine plastic debris, p. 85

⁷⁷ *Ibidem*, p. 85

3. The role of the principle of common but differentiated responsibility in regulating pollution of the marine environment from post-consumer plastic wastes from land-based sources

3.1. Origin of plastic litter entering the oceans from land-based sources

Humans generate significant amount of waste and it is constantly increasing. Plastics form from 7% to 13% of municipal global waste globally.⁷⁸

The history of large-scale production of plastics starts in 1950s and since then it has grown from 2 Mt in 1950 to 380 Mt in 2015 globally. Between these two dates the total production of plastics came to 7800 Mt. In 2005 plastics amounted 10% of solid waste in middle- and high-income countries.⁷⁹ Annually even 12.7 Mt of plastic enters the ocean globally,⁸⁰ 94% of this waste ends up on the sea floor,⁸¹ this a serious threat to marine environment.

The main issue with plastics is that they are extremely durable materials and persist in marine environment for hundreds of years. Furthermore, affected by natural factors and as an effect of the exposure to sunlight plastics deteriorate and fragment in the marine environment. Larger items become microplastics and toxic and noxious

⁷⁸ UNEP Marine plastic debris and microplastics – Global lessons and research to inspire action and guide policy change, p. 42

⁷⁹ Geyer R., Jambeck J. R., Law K. L. (2017) Production, use, and fate of all plastics ever made, *Science Advances* 3, e1700782, p. 1

⁸⁰ UNEP Marine plastic debris and microplastics – Global lessons and research to inspire action and guide policy change, p. 42

⁸¹ *Plastics in the Marine Environment*, Eunomia Research & Consulting Ltd (2016)

substances leak and contaminate the seawater.⁸² Microplastics has spread everywhere: at the sea surface, in the water column, in the sediments and the deep sea.⁸³

Nowadays, the main component of marine litter is plastic, it forms even up to 95% of waste that is found on the shoreline, the seabed and the sea surface. Globally most of the marine litter originates from land-based sources rather than from ships.⁸⁴ According to study from 2010, countries with coastal boarder annually generate 275 million tonnes of plastic waste and 4.8 to 12.7 of which enters the oceans.⁸⁵ Management of this quantity of waste is a challenge, especially to states of rapid population development and economic growth.⁸⁶

There is a general difficulty in determining the origin of particular marine litter. Some items have potential diverse geographic origin, sources or pathways of entry. For instance, a plastic bottle could be left on a beach, dumped from a ship, improperly disposed on land and washed into the sea. Determining the source of microplastics in most cases is impossible.⁸⁷

Land is nowadays the main source of plastic waste in the oceans, over 80% of annual input has its origin on land, the remainder comes from sea-based sources, mainly from fishing activities (e.g. lost or discarded fishing gear).⁸⁸

⁸² Marine Litter Regional Action Plan, 2014, p. 3
<https://www.ospar.org/documents?v=34422>

⁸³ Galgani F., Hanke G., Maes T. (2015) Global distribution, composition and abundance of marine litter, Marine anthropogenic litter by Bergmann M., Gutow L., Klages M., Springer open, p.29

⁸⁴ *Ibidem*, p.30

⁸⁵ UNEP (2016) Marine plastic debris and microplastics – Global lessons and research to inspire action and guide policy change, p. 42

⁸⁶ Brooks A. L., Wang S., Jambeck J. R., The Chinese import ban and its impact on global plastic waste trade, p. 1

⁸⁷ Veiga, J.M., Fleet, D., Kinsey, S., Nilsson, P., Vlachogianni, T., Werner, S., Galgani, F., Thompson, R.C., Dagevos, J., Gago, J., Sobral, P. and Cronin, R. (2016) Identifying Sources of Marine Litter. MSFD GES TG Marine Litter Thematic Report; JRC Technical Report, p. 12

⁸⁸ Plastics in the Marine Environment, Eunomia Research & Consulting Ltd (2016)

The pathways by which plastics enter the oceans from land are mainly waterways, the atmosphere or direct into the ocean. Sectors with the highest contribution of plastic waste that enter the oceans are retail, single-used packaging of food and beverage, households and tourism industry. Plastics enter rivers or oceans directly with wastewaters, from dumps carried out with winds or from littering.⁸⁹

Plastics found on beaches mainly come from recreational activities at shores but also from the sea transported by currents.⁹⁰ Plastic packaging for drinks, food and tobacco, that usually are used only once contribute to 61% of global beach litter.⁹¹ The estimated global amount of plastics concentrated on beaches is 2000kg/m², they are washed up with water fluxes and they enter marine environment.⁹²

The other major source of plastics in the oceans are rivers, which are directly connected to the sea. This is one of the main pathways and transport plastic waste for long distances from inland.⁹³

Among others, rivers are polluted with plastics through wastewater. Theoretically wastewater is treated before entering water streams and large solid items should be removed and prevented from entering the environment. In some European countries almost 100% of wastewater is subject to some form of tertiary treatment, on the other hand in developing countries up 90% of wastewater is discharged without any primary treatment.⁹⁴

⁸⁹ Veiga, J.M., Fleet, D., Kinsey, S., Nilsson, P., Vlachogianni, T., Werner, S., Galgani, F., Thompson, R.C., Dagevos, J., Gago, J., Sobral, P. and Cronin, R., Identifying Sources of Marine Litter, p. 42

⁹⁰ Galgani F., Hanke G., Maes T. (2015) Global distribution, composition and abundance of marine litter, p. 31

⁹¹ Brooks A. L., Wang S., Jambeck J. R. (2018) The Chinese import ban and its impact on global plastic waste trade. *Sci. Adv.* 4, p. 1

⁹² Plastics in the Marine Environment, Eunomia Research & Consulting Ltd (2016)

⁹³ Schmidt C., Krauth T., Wagner S. Export of plastic debris by rivers into the sea, *Environmental science and technology*, p. 12246

⁹⁴ Veiga, J.M., Fleet, D., Kinsey, S., Nilsson, P., Vlachogianni, T., Werner, S., Galgani, F., Thompson, R.C., Dagevos, J., Gago, J., Sobral, P. and Cronin, R., Identifying Sources of Marine Litter, p. 42

According to the latest study, all of 1350 analysed rivers, which discharge directly to the sea contribute marine plastic litter. However, only 10 rivers contribute globally between 88% and 94% of marine plastic litter, 8 of which are located in Asia. Most of these countries are middle-income states, which generate high rates of poorly managed plastic wastes.⁹⁵ Rivers located in Asia are: Yangtze, Yellow, Hai, Pearl, Amur, Mekong, Indus and Ganges Delta. The other 2 rivers are located in Africa, which are Niger and Nil. Globally, all rivers every year dump into the seas from 0.47 million to 2.75 million metric tons of plastic waste.⁹⁶

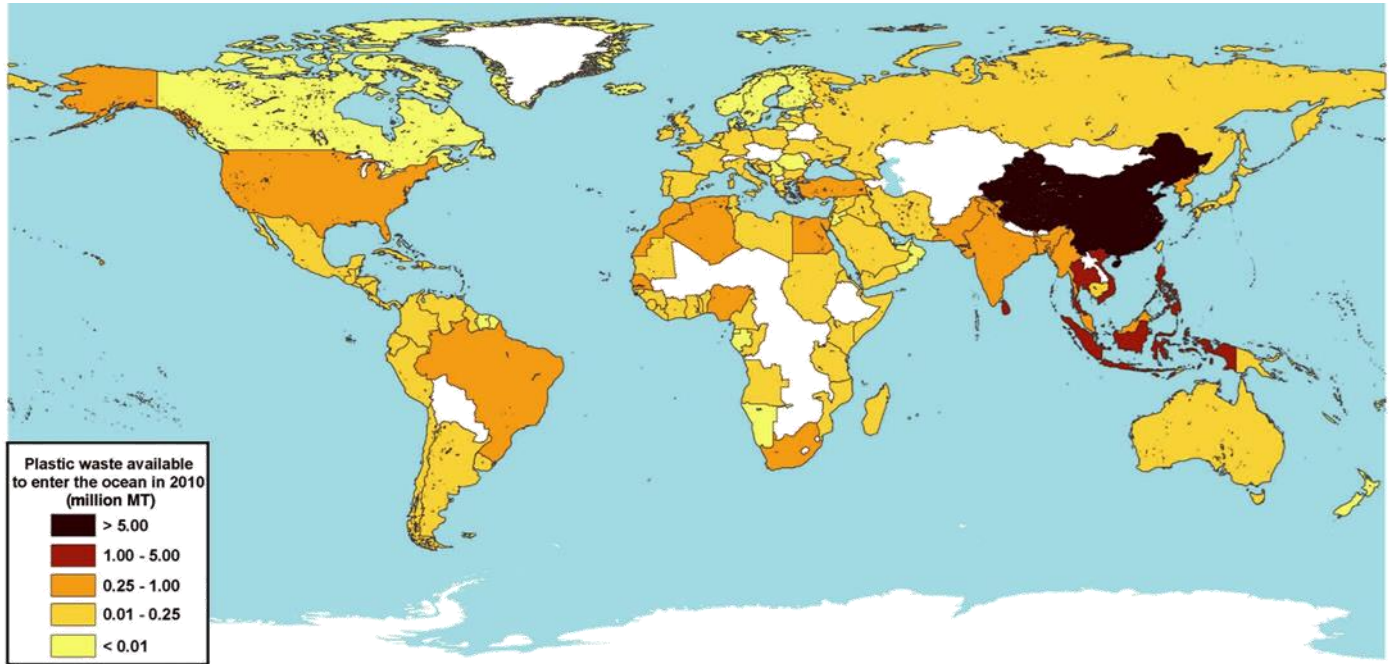
China is on the top of the list of states that contribute the most to the global amount of plastic waste in the oceans. In 2010, China alone generated 1.32 – 3.53 million metric tons of marine plastic waste.⁹⁷

⁹⁵ Schmidt C., Krauth T., Wagner S., Export of plastic debris by rivers into the sea, p. 12250 - 12252

⁹⁶ Patel P., Rivers of plastic, Scientific American, February 2018, p. 17

⁹⁷ Lin Ch. and Nakamura S. (2018) Approaches to solving China's marine plastic pollution and CO2 emission problems, Economic Systems Research, <https://doi.org/10.1080/09535314.2018.1486808>, p.1

Figure 3. Global map with each country shaded according to the estimated mass of mismanaged plastic waste [millions of metric tons (MT)] generated in 2010 by populations living within 50 km of the coast. 192 states were considered in the study, countries not included are shaded white.⁹⁸



⁹⁸ Jambeck J. R., Geyer R., Wilcox C, Siegler T. R., Perryman M., Andrady A., Narayan R., Law K. L., Plastic waste inputs from land into the ocean, p. 769

Table 1. Waste estimates for 2010 for the top 20 countries ranked by mass of mismanaged plastic waste (in units of millions of metric tons per year). Econ classif., economic classification; HIC, high income; UMI, upper middle income; LMI, lower middle income; LI, low income (World Bank definitions based on 2010 Gross National Income). Mismanaged waste is the sum of inadequately managed waste plus 2% littering. Total mismanaged plastic waste is calculated for populations within 50 km of the coast in the 192 countries considered. pop., population; gen., generation; ppd, person per day; MMT, million metric tons.⁹⁹

Rank	Country	Econ. classif.	Coastal pop. [millions]	Waste gen. rate [kg/ppd]	% plastic waste	% mismanaged waste	Mismanaged plastic waste [MMT/year]	% of total mismanaged plastic waste	Plastic marine debris [MMT/year]
1	China	UMI	262.9	1.10	11	76	8.82	27.7	1.32–3.53
2	Indonesia	LMI	187.2	0.52	11	83	3.22	10.1	0.48–1.29
3	Philippines	LMI	83.4	0.5	15	83	1.88	5.9	0.28–0.75
4	Vietnam	LMI	55.9	0.79	13	88	1.83	5.8	0.28–0.73
5	Sri Lanka	LMI	14.6	5.1	7	84	1.59	5.0	0.24–0.64
6	Thailand	UMI	26.0	1.2	12	75	1.03	3.2	0.15–0.41
7	Egypt	LMI	21.8	1.37	13	69	0.97	3.0	0.15–0.39
8	Malaysia	UMI	22.9	1.52	13	57	0.94	2.9	0.14–0.37
9	Nigeria	LMI	27.5	0.79	13	83	0.85	2.7	0.13–0.34
10	Bangladesh	LI	70.9	0.43	8	89	0.79	2.5	0.12–0.31
11	South Africa	UMI	12.9	2.0	12	56	0.63	2.0	0.09–0.25
12	India	LMI	187.5	0.34	3	87	0.60	1.9	0.09–0.24
13	Algeria	UMI	16.6	1.2	12	60	0.52	1.6	0.08–0.21
14	Turkey	UMI	34.0	1.77	12	18	0.49	1.5	0.07–0.19
15	Pakistan	LMI	14.6	0.79	13	88	0.48	1.5	0.07–0.19
16	Brazil	UMI	74.7	1.03	16	11	0.47	1.5	0.07–0.19
17	Burma	LI	19.0	0.44	17	89	0.46	1.4	0.07–0.18
18	Morocco	LMI	17.3	1.46	5	68	0.31	1.0	0.05–0.12
19	North Korea	LI	17.3	0.6	9	90	0.30	1.0	0.05–0.12
20	United States	HIC	112.9	2.58	13	2	0.28	0.9	0.04–0.11

⁹⁹ *Ibidem*, p. 769

In 1990s China started to import plastic waste, which was perceived as profitable, when delivered by ships and used to manufacture other products for sale and export. This situation was beneficial for exporting states, shipping plastic waste to China and neighbouring countries became an outlet for plastic waste management, it was a profitable alternative for landfill or incineration.¹⁰⁰ Since 1993 the imports and export of plastics globally was rapidly increasing, in 2016 123 countries exported 14.1 million MT, which is almost half of all plastics intended for recycling, China imported 7.35 million MT from 43 countries. Since 1992 China imported 106 million MT of plastic waste, this is 45.1% of all imports all together. Further data shows, that China and Hong Kong together imported 72.4% of all plastic waste, however 63% of plastics waste that was imported to Hong Kong was transferred directly to China.¹⁰¹

The leading exporters of plastic waste to China since 1988 were High Income countries, which cumulatively exported 87% of all plastic waste. Simultaneously, Upper Middle Income countries collectively received 96% of all imports.¹⁰² Except for Mexico, top 10 countries exporting plastic waste are High Income Countries. Apart from Hong Kong which is on the top of the list, but in fact transfers plastics to China as a factor, on the top of the list are United States, Japan, Germany, United Kingdom, Netherlands, France, Belgium and Canada.¹⁰³ From 2016 China started to restrict import of plastic due to the Green Fence policy and in 2018 China banned import of plastics. Due to lack of current alternative, plastics that are destined for recycling will probably be landfilled and countries surrounding China will receive displaced plastics. This constitutes further threat, these states hardly have capacity and infrastructure to manage their own waste, let alone a rapid increase of imported plastics.¹⁰⁴

¹⁰⁰ Brooks A. L., Wang S., Jambeck J. R. The Chinese import ban and its impact on global plastic waste trade, p. 1

¹⁰¹ *Ibidem*, p. 2

¹⁰² *Ibidem*, p. 2

¹⁰³ *Ibidem*, p. 2-4

¹⁰⁴ *Ibidem*, p. 4

3.2. Definition of the principle of common but differentiated responsibility

As mentioned above, the principle of sustainable development is one of the pillars of international law of marine environment. However, the existing social, economic and technological differences between states, creates a difficulty for all of them to comply with obligations of protection of the environment. The issue is, how the differences of capability and contribution between states could be incorporated into relevant rules of international law and what is the role of the principle of common but differentiated responsibility.¹⁰⁵

The principle of common but differentiated responsibility is a result of evolution of two concepts such as common concern and common heritage of humankind.¹⁰⁶ The principle of common but differentiated responsibility is a result of application of equity in international law and raising global awareness that developing countries have special needs, which must be taken in to account when rules of international law are developed, applied and interpreted.¹⁰⁷ Equal obligations cannot be applied to all States in the same way, there need to be taken into account States capacity to fulfil obligations to prevent environment.¹⁰⁸ The principle consist of two main elements: first, requires all States to take part in international response measures concerning environmental challenges, second, implies on States differing commitments and obligations, depending on their capacity, contribution to problems and their developmental needs.¹⁰⁹ According to requirements applied through this principle States in their own development shall take into consideration needs of all members of international community. Common responsibility 'requires joint and concerted action as well as consideration of needs of

¹⁰⁵ Tanaka Y., Principles of international marine environmental law, p. 34

¹⁰⁶ Lucia D. V. (2012) Common but Differentiated Responsibility, Encyclopedia of Global Warming & Climate Change, edited by Philander G., Thousand Oaks, SAGE Publications, p. 2

¹⁰⁷ Sands P., Peel J., Principles of International Environmental Law, p. 244

¹⁰⁸ Deleuil T., The Common but Differentiated Responsibilities Principle: Changes in Continuity after the Durban Conference of the Parties, RECIEL 21 (3) 2012, p. 271

¹⁰⁹ Honkonen T. (2009) The common but differentiated responsibility principle in multilateral environmental agreements, Wolters Kluwer, p. 1

others'. However, due to States diverse capacity, obligations and responsibilities for coping with global environmental problems differ considerably.¹¹⁰

The principle favours least advantaged States, which usually applies to developing States. In practice, the principle is pursued by differentiated allocation of rights and obligations as well as redistribution of resources.¹¹¹ Overall, the concept of common but differentiated responsibility determines two legal consequences: creates a dual standard in favour of developing states and applies responsibility on developed states to assist developing states.¹¹²

The principle was adopted in Principle 7 of 1992 Rio Declaration: 'States shall co-operate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.'¹¹³

The principle is also recognized in 2015 Paris Agreement in Article 3, State parties to this Agreement agreed that in order to achieve purpose of this act they need to support developing State parties for the effective implementation of this Agreement.¹¹⁴

Finally the principle is incorporated in the Article 207(4) of UNCLOS, which provides an obligation that states are required to establish regional rules and standards to prevent land-based marine pollution and to take 'into account characteristic regional features, the economic capacity of developing States and their need for economic development'. Reflection of the principle is also presented in the Article 194(1) of UNCLOS, where the obligation to prevent the marine environment from pollution from any source should be fulfilled by using 'best practicable means at their disposal and in accordance with their capabilities'.

¹¹⁰ *Ibidem*, p. 2

¹¹¹ *Ibidem*, p. 2-3

¹¹² Tanaka Y., Principles of international marine environmental law, p. 50

¹¹³ 1992 Rio Declaration on Environment and development, Principle 7

¹¹⁴ 2015 Paris Agreement, Article 3

3.3. The role of the principle of common but differentiated responsibility in international legal instruments that apply to pollution of marine environment with post-consumer plastic waste

In the previous Chapter was presented the origin of post-consumer plastic waste and the following one will present how international legal instruments apply to distribution of responsibility between states. The aim is to review legal means for the role that the principle of common but differentiated responsibility plays in pollution of marine environment with post-consumer plastic waste.

As was presented above, between 88% and 94% of marine plastic waste come from only 10 rivers, all are within territories of middle-income states with poor waste management.¹¹⁵ It was further mentioned, that China recently banned import of plastics from other states, high-income states mostly, due to waste management issues.¹¹⁶ This data presents the global contribution into pollution of marine environment with post-consumer plastic waste or plastic waste in general. The question arises, how is distributed the responsibility for such pollution? Are there any legal instruments that apply an obligation on developed countries to support developing states in combating pollution of marine environment with post-consumer waste?

Article 207(4) of UNCLOS provides an obligation that states while establishing global and regional rules and standards to prevent, reduce and control pollution from land based sources shall take ‘into account characteristic regional features, the economic capacity of developing States and their need for economic development’. As pollution with post-consumer plastic waste from land-based sources remains in the scope of pollution defined in Article 1 of UNCLOS, the needs of developing countries should be considered in relevant agreements and soft law instruments.

The UN Watercourses Convention in the Preamble states, that state Parties are aware of ‘the special situation and needs of developing countries’. Further, Article 6 requires that Parties utilize international watercourse ‘in an equitable and reasonable manner, taking into account (...) The social and economic needs of the watercourse

¹¹⁵ Shmidt C., Krauth T., Wagner S., Export of plastic debris by rivers into the sea, *Environmental science and technology*, p. 12250 - 12252

¹¹⁶ Brooks A. L., Wang S., Jambeck J. R., The Chinese import ban and its impact on global plastic waste trade, p. 2-4

States concerned'. According to these provisions, the Convention takes into consideration different needs of developing states, however it does not express directly the approach of common but differentiated responsibility. However, the Preamble refers to principles of Rio Declaration in general and the latter in Principles 6 and 7 establishes the common but differentiated responsibility in regard to protection and conservation of the environment.¹¹⁷ As was determined in previous Chapter the Convention applies to pollution of marine environment with post-consumer plastic waste. Due to the above, the far reaching conclusion could be that Parties to this Convention, while executing its provisions should take the approach of common but differentiated responsibility.

The Convention on Persistent Organic Pollutants in the Preamble refers directly to the principle of common but differentiated responsibility and respective capabilities of developed and developing countries. Preamble also provides a statement that the Parties take into account 'the circumstances and particular requirements of developing countries, in particular the least developed among them, and countries with economies in transition, especially the need to strengthen their national capabilities for the management of chemicals, including through the transfer of technology, the provision of financial and technical assistance and the promotion of cooperation among the Parties'.¹¹⁸ Article 11 of the Convention puts states under obligation to undertake 'appropriate research, development, monitoring and cooperation pertaining to persistent organic pollutants' and states shall 'take into account the concerns and needs, particularly in the field of financial and technical resources, of developing countries and countries with economies in transition and cooperate in improving their capability' while undertaking such actions.¹¹⁹ The special needs of developing states are also recognized in the Article 12, which stresses that responding to requests from such countries to provide technical support and transfer of technology are essential to the successful implementation of the Convention.¹²⁰ Further, Article 16 provides a duty, that Parties shall evaluate the effectiveness of the Convention and in order to accomplish that states shall establish arrangements to provide monitoring data on the presence of POPs and their global and environmental transport. Such arrangements 'may be supplemented

¹¹⁷ Principle 6 and 7 of the Rio Declaration

¹¹⁸ Preamble of 2001 Stockholm Convention

¹¹⁹ Article 11 of 2001 Stockholm Convention

¹²⁰ Article 12 of 2001 Stockholm Convention

taking into account the differences between regions and their capabilities to implement monitoring activities.’¹²¹ All of the above provisions recognise the unequal position of states due to the stage of their development and applies additional obligations on developed countries in order to achieve aims determined in the Convention. Although, the Convention’s application to post-consumer plastic waste it recognises the principle of common but differentiated responsibility and takes in to account special needs of developing states.

The Basel Convention in the Preamble recognises the ‘limited capabilities of the developing countries to manage hazardous and other wastes’ and ‘the need to promote the transfer of technology for sound management of hazardous wastes and produced locally (...) to the developing countries’.¹²² Further, the Convention refers to the special needs of developing countries in a number of provisions and requires states to take appropriate measures to not allow export of hazardous waste to developing countries that have prohibited all imports or when there is a reason to believe that ‘the wastes in question will not be managed in an environmentally sound manner’.¹²³ Further requirements expects states to ‘undertake to review periodically the possibilities for the reduction of the amount and/or the pollution potential of hazardous wastes and other wastes which are exported to other States, in particular to developing countries’¹²⁴ State Parties are further expected to cooperate in order to develop and transfer technology especially to countries which may require technical assistance.¹²⁵ The Convention encourages Parties to enter into further bilateral, multilateral or regional agreements regarding transboundary movement of hazardous waste, however it is stressed that States shall take into account the interests of developing countries.¹²⁶ The Basel Convention does not directly apply the common but differentiated approach, however it refers to special needs of developing states. The Convention recognises the lower capacity of such states to meet the requirements applied by the Convention and the need

¹²¹ Article 16 of 2001 Stockholm Convention

¹²² The Preamble of the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

¹²³ Article 4(2)(e) of the 1989 Basel Convention

¹²⁴ Article 4(13) of the 1989 Basel Convention

¹²⁵ Article 10 of the 1989 Basel Convention

¹²⁶ Article 11 of the 1989 Basel Convention

to support their technical capabilities by developed states, which are more technically advanced.

During the Conference in 1995 that took place in Washington Parties signed the Washington Declaration on Protection of Marine Environment from Land-based Activities and declared their common goal and intention to develop national action plans to deal with land-based impacts on marine environment. States also declared their intention to cooperate in order ‘to build capacities and mobilize resources for the development and implementation of such programmes, in particular for developing countries, especially the least developed countries, countries with economies in transition and small island developing States’.¹²⁷

During the 5th International Marine Debris Conference held in Honolulu in 2011 states adopted the Honolulu Commitment and they ‘recognised the need to address the special requirements of developing countries, in particular the Least Developed Countries and Small Island Developing States, and their need for financial and technical assistance, technology transfer, training and scientific cooperation to enhance their ability to prevent, reduce and manage marine debris as well as to implement this commitment and the Honolulu Strategy’.¹²⁸ The wording of this statement in the context of the whole document represents the approach of common but differentiated responsibility. The Commitment is based on the spirit of global cooperation and recognition of the pollution from land-based sources as a common and international problem.¹²⁹

All of the above documents refer to the principle of common but differentiated responsibility directly or indirectly by highlighting the special needs and position of developing states. The principle is usually expressed by acknowledging the difficult position and special needs of developing countries in combating pollution from land-based sources and the need of transfer of technology and best practices between states. The distribution of responsibility for post-consumer plastic waste pollution of the marine environment is not expressed in these documents, they rather support the idea of cooperation and implementation of the domestic regulations in accordance with

¹²⁷ The 1995 Washington Declaration on Protection of Marine Environment from Land-based Activities

¹²⁸ The 2011 Honolulu Commitment

¹²⁹ The 2011 Honolulu Commitment

international standards. However, they apply an obligation on developed states to take into account limited capabilities of developing states and their unequal position.

4. Conclusions

The above Chapters aimed to present the scale of the pollution of marine environment with post-consumer plastic waste, international legal means which apply to this issue and the role that the principle of common but differentiated responsibility plays in distribution of responsibility for this type of pollution.

The main issue with combating pollution of marine environment with post-consumer plastic waste is that there are no legally binding international rules that would require states to undertake specific actions in order to eliminate this type of pollution of marine environment. The general obligation under the Article 207 of UNCLOS to adopt laws in order to prevent marine environment from land-based sources of pollution and the enforcement obligations under the Article 213 of UNCLOS are the only legally binding international instruments that are applicable to combating pollution with post-consumer plastic waste on the global scale.¹³⁰

The principle of common but differentiated responsibility underlines directly or indirectly most of presented legal instruments and requires states to take into account different needs of developing states.

In regard of the pollution of marine environment with plastics from land-based sources the distribution of responsibility is a complex issue. As was presented in previous Chapter, developing states are contributing the most to this type of pollution. The insufficient waste management and littering are the main issues that result in increasing pollution of the oceans. However, the contribution of developed states through export of plastics to middle-income states was also highlighted in the previous Chapter. In such way, developed states contribute indirectly to pollution of marine environment with plastic from land-based sources.

The export from developed states seems to be in contrary with the common responsibility for marine environment. High-income states have in general higher capacity to develop sufficient waste management and provide technological support for developing states. However, they tend to trade waste to states with lower income, which contribute most of the global amount of plastics that enter the oceans.

¹³⁰ Rubenheimer K., McIlgorm A. (2017) Is the Montreal Protocol a model that can help solve the global marine plastic debris problem?, p. 324

International legal framework, which applies to pollution of marine environment with post-consumer plastic waste or plastics in general, provides states with obligation and guidance in order to implement domestic regulations. However, there are hardly any legal means that would comprehensively provide states with complex means to combat this type of pollution.

The possible solution is to develop a new, comprehensive international legal instrument that would apply globally to pollution of marine environment with plastics from land-based sources, including post-consumer plastic waste. The possible example could be the Montreal Protocol that was adopted to address the depletion of the ozone layer in the atmosphere that due to its common nature could be compared to the oceans. This document is perceived as ‘the most successful multilateral agreement in resolving an environmental issue mostly due to its level of participation, the global cooperation generated and the targets achieved, amongst other factors’.¹³¹ The Protocol is also an example of holding the industry responsible for the environmental impacts of its products. The Protocol sets specific targets that each state should meet, such solution would be a new approach in combating pollution of the oceans with plastics.¹³²

However, developed states due to their higher capabilities should take a lead in resolving pollution with plastics from land based sources, including post-consumer plastic waste. Such approach was presented in the 1992 United Nations Framework Convention on Climate Change. The Convention applies on states an obligation to protect the climate ‘on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities’. The Convention also requires Parties to take into consideration the special circumstances of developing states and their vulnerability to the effects of climate change.¹³³ Application of this approach to pollution of marine environment with plastics from land-based sources, would allow to distribute responsibilities and obligations among states accordingly to their capabilities.

In conclusion, the principle of common but differentiated responsibility does not seem to play a significant role in existing legal means applicable to combating pollution of marine environment with post-consumer plastic waste from land-based sources. Due to a scale of the problem and the origin of a major part of plastics present in the marine

¹³¹ *Ibidem*, p. 324

¹³² *Ibidem*, p. 324

¹³³ Article 3 of 1992 United Nations Framework Convention on Climate Change

environment, application of the principle of common but differentiated responsibility could help in solving this increasing threat. Developing states that contribute the most to the pollution of oceans with plastics have lower capacity to solve this problem, developed states through relevant international legal means could take the lead and undertake relevant and appropriate action.

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1971 Ramsar Wetlands Convention

1972 Stockholm Declaration

1982 United Nations Law of the Sea Convention

1985 Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-based Sources

1987 Report of the World Commission on Environment and Development, Our Common Future

1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

1992 Convention on Biological Diversity

1992 Rio Declaration

1992 Convention on the Protection of Marine Environment of the Baltic Sea

1995 Washington Declaration on Protection of Marine Environment from Land-based Activities

1995 The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) UNEP (OCA)/LBA/IG.2/7

1997 Convention on the Law of Non-navigational Uses of International Watercourses

2001 Stockholm Convention on Persistent Organic Pollutants was agreed in order to reduce and eliminate emissions and discharges of persistent organic pollutants

2011 The Honolulu Commitment

2014 Marine Litter Regional Action Plan

2015 Paris Agreement