

Australian Water Law as a potential model for combatting plastic waste pollution along South Africa's coastline

T Verdoorn

 orcid.org/0000-0003-1782-9141

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Supervisor: Dr G Viljoen

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Student number: 23386339

ABSTRACT

The predominant role of the oceans, seas and marine resources as a source of life is recognised globally. The international community's commitment to protect and conserve the ocean and its resources is demonstrated by the fact that the United Nations 2030 Agenda for Sustainable Development dedicated one of its 17 Sustainable Development Goals (SDGs) solely to its promotion: SDG 14 sets out to "*conserve and sustainably use of the oceans, seas and marine resources...*" The UN Environment Programme Clean Seas Campaign took an aggressive step in banning single-use plastic products and packaging, as well as recycling plastic wastes. Despite these initiatives, an array of environmental concerns, including plastic pollution, continue to threaten the sustainability of marine resources, the ocean and national seas. Surely, a strong and justiciable regulatory framework is necessary to ensure the protection and sustainable use of the marine environment and its ecosystems.

The absolute need to examine the regulatory framework is exacerbated by the fact that oceans and coastlines are suffocating as a result of plastic pollution. Even with existing regulatory tools to combat pollution, the South African legal framework falls short with immediate solutions. This study considers how the Australian regulatory framework addresses marine plastic pollution and considers how it may improve the interpretation and development of the South African legal framework pertaining to plastic waste pollution along South Africa's coastline.

As a contextual starting point, this research paper considers the international regulatory framework of at-sea disposal of plastic waste. In doing so, it sets out the significance of the international framework for signatory states. A separate section examines the South African regulatory framework and continues to analyse and contextualise a foreign legal system, being the Australian regulatory framework. The study explores innovative Australian legal approaches that addresses marine plastic pollution. As such, Australia's regulatory framework provides valuable lessons on tackling plastic pollution in order to, as per SDG 14 "*conserve and sustainably use the oceans, seas and marine resources*" along South Africa's coastline.

Keywords:

Oceans, ocean governance, pollution, plastic waste, oceans, sustainability

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LIST OF ABBREVIATIONS

DEA	Department of Environmental Affairs
DEFF	Department of Environment, Forestry and Fisheries
EPA	Environmental Protection Act 101 of 1981
EPBCA	Environmental Protection and Biodiversity Conservation Act 91 of 1991
EEZ	Exclusive Economic Zone
FAO	Food and Agriculture Organisation
NEMA	National Environmental Management Act 107 of 1998
NEM: ICMA	Integrated Coastal Management Act 24 of 2008
NEM: WA	National Environmental Management: Waste Act 59 of 2008
NGO's	Non-governmental Organisation
POP's	Persistent Organic Pollutants
SABC	South African Broadcasting Corporation
SAJELP	South African Journal of Environmental Law and Policy
SDG	Sustainable Development Goal
UNEP	United Nations Environment Programme
UNCLOS	United Nations Convention on the Law of the Sea 1982
WWF	World Wildlife Fund

Chapter 1 - Introduction

1.1 Background

As far back as a century ago, the invention of plastic,¹ also known as polymers, was regarded a breakthrough in the manufacturing world.² Plastic was hailed as it curbed and conserved natural materials such as ivory, tortoiseshell and horn.³ Manufacturers increasingly relied on plastics to produce consumer goods. In substituting the said natural materials, plastics were utilised for purposes of packaging, building, construction, and even the automotive industry.⁴ The electronic and electrical industries also benefitted from the invention of plastic, especially if one considers that most computers, cell phones, kitchen appliances and other electronic devices mostly constitute plastic.⁵ Clearly, following the invention of plastic, natural materials originally used for manufacturing could since be imitated, thereby putting an end to the violent slaughter of animals such as elephants and tortoises.⁶ However, from being welcomed and even hailed in the environmental conservation sector,⁷ plastic, being non-biodegradable,⁸ has in recent years developed into one of the biggest environmental threats on earth.⁹

Annually, an alarming eight million tons of plastic around the globe are discarded into the ocean.¹⁰ In excess of 80 per cent of ocean waste pollution originates from either land-based human activities or atmospheric pollution, in which objects are blown from

¹ A material consisting of many molecules that form polymers. Cellulose is a material that makes up the cell walls of green plants. Over the century humans have discovered how to develop synthetic polymers made out of natural substances such as cellulose but more often than most carbon atoms found in polymers are extracted from petroleum and fossil fuels.

² The process of turning raw materials such as those found in nature, into goods by means of human labour, machinery and or chemical processing.

³ Science History Institute 2020 <https://www.sciencehistory.org/the-history-and-future-of-plastics>.

⁴ Science History Institute 2020 <https://www.sciencehistory.org/the-history-and-future-of-plastics>.

⁵ Science History Institute 2020 <https://www.sciencehistory.org/the-history-and-future-of-plastics>.; European Union: European Regional Development Fund 2020 <https://www.blastic.eu/knowledge-bank/introduction-plastic-marine-litter/plastic-industry/>.

⁶ Science History Institute 2020 <https://www.sciencehistory.org/the-history-and-future-of-plastics>.

⁷ Science History Institute 2020 <https://www.sciencehistory.org/the-history-and-future-of-plastics>.

⁸ Stachowitsch "Plastic" 89; It is incapable of being decomposed or dissolved by way of natural organisms.

⁹ Science History Institute 2020 <https://www.sciencehistory.org/the-history-and-future-of-plastics>.

¹⁰ Plastic Oceans Foundation 2018 <https://plasticoceans.org/who-we-are/>; Rensburg *et al Applied Geography* 1

land (mostly plastic debris) into the ocean.¹¹ Devastating consequences are among environmental degradation and marine life extinction as ± 100 000 marine animals are killed by plastic waste each year.¹²

Adding to the dilemma, about 50 per cent of consumer plastics are so-called single use plastics. Single use plastics are bought and discarded after only one use.¹³ The reality is that, due to poor waste management practices, the non-biodegradable plastics that do find their way to the ocean, will remain there, and will continue to threaten biodiversity, marine ecosystems, as well as human and sea life.¹⁴ Such plastics cause ingestion by and entanglement of marine animals.¹⁵ It poses a health and safety threat to humans too, as people are often caught in unseen lines, nets and other plastic debris while conducting activities such as snorkelling and diving. In fact, micro plastics (the degradation of bigger plastic materials) are ultimately absorbed into the tissues of seafood consumed by humans, thereby entering the human body.¹⁶

The necessity for legal intervention into plastic waste and ocean governance is particularly clear if one considers the vital importance of the oceans. Oceans are imperative for human survival, for example, for the provision of seafood,¹⁷ medicine, energy, transportation, trade, defence and recreation.¹⁸ As such, the proper management and control of plastic waste is essential so that it does not reach the

¹¹ National Geographic 2020 <https://www.nationalgeographic.org/encyclopedia/marine-pollution/>.

¹² National Geographic 2020 <https://www.nationalgeographic.org/encyclopedia/marine-pollution/>.

¹³ The World Wildlife Fund 2018 http://www.wwf.org.za/our_news/news/?24881/Beat-plastic-pollution-for-World-Environment-Day-2018.

¹⁴ A recent published scientific article by Savoca MS: "Marine plastic debris emits a keystone info chemical for olfactory foraging seabirds" determined that a certain chemical in plastics smell good to seabirds. The plastic blocks the digestive tract after digestion subsequently leading to a slow death due to starvation.

¹⁵ Stachowitsch "Plastic" 89.

¹⁶ Stachowitsch "Plastic" 91.

¹⁷ The State of World Fisheries and Aquaculture *Contributing to food security and nutrition for all 2*.

¹⁸ The oceans are responsible for 70 per cent of the earth's oxygen while rainforests only produce 28 per cent thereof; fish accounts for approximately 15.7 per cent of animal protein consumed globally. In per capita terms, food fish consumption grew from 9.0 kg in 1961 to 20.2 kg in 2015, at an average increasing rate of about 1.5 percent per year. Hall 2011 <http://www.ecology.com/2011/09/12/important-organism/>. According to FAO's most recent official statistics 59.6 million people in the world were engaged in fisheries and aquaculture in 2016; The Ocean Entrepreneur 2017 <https://theoceanpreneur.com/sail-green/seven-reasons-ocean-important/>.

ocean.¹⁹ Naturally, the generation and management of plastic waste needs to be curbed in order to safeguard the environment. This is very relevant in respect of the preservation of South Africa and the country's coastlines.

When analysing the world's top 20 marine plastic polluters, South Africa ranks 11th when it comes to discharging plastic waste into the ocean.²⁰ Appallingly, South Africa pollutes its own coastlines more than expected third world countries such as India and Brazil.²¹ South Africa does, however, boast with the necessary regulatory pollution measures and tools. The supreme law of the country, the *Constitution of the Republic of South Africa*, 1996 contains a right to a safe environment for one's health and well-being. In supplementing section 24 of the Constitution, the *National Environmental Management Act* 107 of 1998 (NEMA), the *National Environmental Management Integrated Coastal Management Act* 24 of 2008 (NEM:ICMA), the *National Environmental Management Waste Act* 59 of 2008 (NEMWA) and the *National Water Act* 36 of 1998 (NWA) provide a comprehensive regulatory framework for the safety of the natural environment.²²

1.2 Problem Statement

As a developing country, South Africa is faced with a number of challenges, one of which is the high volumes of waste generation. The latter adds additional pressure on the limited capacity of waste management facilities.²³ Despite the fact that recycling infrastructures are outdated, there remains a historical backlog of waste services in rural informal and formal areas.²⁴ The high costs of waste management (which are higher than disposal of waste into landfills) lead to waste disposal to be preferred over other more sustainable options such as reducing, reusing and recycling of waste.²⁵ As

¹⁹ Amasuomo and Baird 2016 *Journal of Management and Sustainability* 88-90. Poor waste management practices have in the past resulted in several outbreaks of epidemics with high death tolls and therefore proper control and management of waste.

²⁰ Almost every minute, one garbage truck of plastic is dumped into South African oceans - SABC 2018 <http://www.sabcnews.com/sabcnews/sa-oceans-fast-becoming-biggest-dumping-site/>.

²¹ SABC 2018 <http://www.sabcnews.com/sabcnews/sa-oceans-fast-becoming-biggest-dumping-site/>.

²² Nel and Alberts "Chapter 1: The nature and extent of environmental management" 22-23.

²³ Amasuomo and Baird 2016 *Journal of Management and Sustainability* 88-90; Department of Environmental Affairs 2018 *Chapter 13 Waste Management* 278-279.

²⁴ Department of Environmental Affairs 2018 *Chapter 13 Waste Management* 278-279.

²⁵ Department of Environmental Affairs 2018 *Chapter 13 Waste Management* 278-279.

a result of this approach, waste ends up in landfills, or even rivers, estuaries, and ultimately submerge into the oceans.²⁶

Even with existing regulatory pollution measures and tools, the South African legal framework falls short with immediate solutions. The necessity of examining the regulatory framework is exacerbated by the fact South Africa does not necessarily have the means to institute immediate solutions to its plastic waste pollution problem. In fact, it seems as if a well-established regulatory framework does not directly address marine litter and pollution at source.²⁷ This study examines to what extent the South African legal framework successfully attends to the preservation of the oceans, seas and marine resources through the regulation of plastic waste pollution.

Given the scope of the problem, it would make sense to explore and extract various understandings and perceptions from existing foreign law of waste generation and management of pollution in the ocean governance context. It is herein argued that the Australian regulatory framework provides a potential model for combatting plastic waste pollution along South Africa's coastline. The Australian regulatory framework provides for 1) the implementation of international law and instruments that deal with at-sea disposal and governance; 2) the protection of endangered ecosystems and species; and 3) the development of national waste management policies.²⁸ The Australian regulatory framework highlights the significance of conserving marine resources and the necessity to take action against the negative anthropogenic threats it faces. In using this model, this study evaluates the regulatory framework of South Africa against that of Australia. The analysis is expected to strengthen the South African ocean waste regulatory framework and sustainable oceanic conservation practices.

²⁶ Department of Environmental Affairs 2018 *Chapter 13 Waste Management* 278-279.

²⁷ To be discussed in chapter 2.

²⁸ Parliament of Australia 2016
https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Marine_plastics/Report/c04.

1.3 Area of focus

1.3.1 Research Question

The question that forms the basis of this study is how and to what extent the Australian regulatory framework in relation to marine plastic pollution may improve the development and interpretation of the South African waste regulatory framework and oceanic conservation practices.

1.3.2 Objectives of this study

The primary objective of this study is to determine how the Australian regulatory framework in relation to marine plastic pollution and its governance may improve or inform the South African waste regulatory framework and oceanic conservation practices.

To accomplish the ultimate objectives of this study, the following secondary objectives are set:

- To identify the extent of global and local marine plastic waste pollution and to determine why sustainable use and conservation of our oceans, seas and marine resources are of such importance;
- To theoretically examine international regulatory instruments in order to put forward the particular obligations of states regarding the regulation plastic pollution in oceans;
- To provide an overview of the Australian regulatory framework in relation to ocean governance and plastic waste management in order to put forward a potential model for combatting plastic waste pollution along South Africa's coastline.
- To analyse the regulatory framework of South Africa in respect of current legislation applicable to waste management and ocean governance in order to identify regulatory gaps that result in existing plastic pollution issues;

To use the Australian regulatory framework as a model to distil lessons and to formulate appropriate recommendations for the South African legal framework to combat plastic waste pollution.

1.3.3 Assumptions and Hypothesis

1.3.3.1 Assumptions

The following assumptions underlie this thesis:

1. Section 24 of the Constitution affords every individual the right to an environment that is not harmful to one's health or well-being and demands an obligation on the state to ensure that such environment and its resources are utilised in a sustainable manner so as to serve present needs and protecting those of future generations;
2. The South African Government has an obligation to adhere to international waste management laws and to implement same in legislation and ensure the effective enforcement thereof in order to maintain an environment that is not harmful for its citizens' health and well-being and does not further ecosystem degradation;
3. Scholars hold different views on the management of plastic waste as there is no clear vision on how to eliminate the destructive impact that plastic waste has on the environment. As such, international conventions are believed to provide basic guidance for national legislation on preventive usage and avoiding marine litter and pollution in order to develop an integrated oceans policy addressing these environmental concerns.

1.3.3.2 Hypothesis

The main hypothesis of this study is that the Australian notion of plastic waste management in relation to Australian water law and ocean governance may be used as a model for combatting plastic waste pollution at South African coastlines and to strengthen South Africa's waste management regulations.

1.4 Research methodology

This research paper is mainly based on a literature study in that the primary legal sources comprise of textbooks, academic journals, international instruments as well as electronic resources. The study starts off with an overview of the global environmental concern on plastic waste pollution in the oceans, seas and marine resources. It continues to examine state obligations in terms of international regulatory instruments. It further explores sources on the theoretical foundations of ocean governance and plastic waste management practices in South Africa.

There exists a comparative dimension to the focus of the literature in the spirit of section 39 (1)(b) and (c) of the Constitution.²⁹ So as to provide further insights for the development of South Africa's waste regulatory and ocean governance framework, this study delves into the jurisdiction of Australian water law. It focusses on aspects of the Australian regulatory regime in relation to marine plastic pollution in order to inform South Africa's regulatory framework in giving effect to sustainable ocean governance.

The inquiry into the Australian water law is motivated by at least three reasons. In the first instance, Australia is known for its enormous coastline of approximately 34 000kms.³⁰ Its regulatory framework therefore provides a realistic picture of the complexity and diversity in respect of ecosystems. Secondly, the proven success of Australia's approach to marine plastic pollution governance warrants examination. Thirdly, as will be indicated below, the said regulatory framework supports strong initiatives against marine pollution.³¹

²⁹ A court or tribunal must, consider international law when interpreting the bill of rights and may additionally consider foreign law. A court thus has an obligation to consider international and foreign laws when it comes to the welfare of its citizens and the environment as well as the sustainable use thereof for the protection of future generations.

³⁰ South Africa's coastline spans across 3000km which territory is larger than the country itself, enriched with a vast variety of marine life as is the same with Australia and its popular Great Barrier Reef, making it the perfect comparative study when comparing coastlines and the complexity of governing same; Haward and Vince 2009 *Coastal Management* 2-3.

³¹ Haward and Vince 2009 *Coastal Management* 2-3.

1.5 Framework of this study

This dissertation is consolidated into five chapters. The first chapter, being the present, portrays a general background to research question, the problem under discussion as well as a description of the adopted research methodology.

Chapter 2 examines international law to indicate universal obligations placed on states regarding the governance of marine plastic pollution;

Chapter 3 explores the Australian regulatory framework in relation to marine plastic pollution to provide a model against which South Africa's waste management systems can be measured;

Chapter 4 examines the South African legal framework on ocean waste pollution to determine the regulatory gaps that led and is still causing the current state of ocean waste pollution;

Finally, chapter 5 uses the Australian model to strengthen South Africa's waste management practices. This chapter summarises the findings and assumptions thereby serving as a foundation for the future of South Africa's pursuit against marine plastic pollution.

Chapter 2 - Theoretical framework: International perspectives

2.1 Introduction

In order to resolve the environmental crisis of marine plastic pollution, an effective international framework for responsible or sustainable ocean governance is crucial. Notably, prior to the ratification of the currently prevailing *United Nations (UN) Convention on the Law of the Sea* (hereinafter UNCLOS) in the year 1982, the oceans had been subject to the freedom of the seas doctrine.³² Essentially, the "*freedom of the seas doctrine*" limited the rights and jurisdiction of coastal states to such an extent, that exploration and usage were restricted to a certain width or "*narrow sea belt*" surrounding a country's coastline.³³ The seas not covered by this narrow belt, the high seas, were however free to all and belonged to no one.³⁴ Consequently, there was an emergent impetus to extend national claims over offshore resources which arose during the mid-twentieth century.³⁵ Greed and competitive practices from various states eventually led to wide-spread pollution and wastes from transport ships along sea routes across the globe which naturally led to the depletion of marine resources, living and non-living, as well as marine environmental degradation.³⁶

The first major challenge to the freedom of the seas doctrine occurred in the year 1945 when the United States expanded their continental shelf jurisdiction.³⁷ Countries such as Saudi Arabia, Egypt, Venezuela, Ethiopia, Libya, and various eastern European countries followed this example, thereby gaining control over larger parts of the ocean for the extraction of oil, fish stocks and mineral deposits.³⁸ The oceans were exploited

³² United Nations: Oceans and Law of the Sea 1998
https://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm.

³³ United Nations: Oceans and Law of the Sea 1998
https://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm.

³⁴ Rothwell and Stephens *The international law of the Sea* 2nd ed 515.

³⁵ United Nations: Oceans and Law of the Sea 1998
https://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm.

³⁶ Singh and Ort "Law and Policy Dimensions of Ocean Governance" 44.

³⁷ Steinberg *The social construction of the ocean* 188; United Nations: Oceans and Law of the Sea 1998

https://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm.

³⁸ Pyc "The role of the law of the sea in marine spatial planning" 376; United Nations: Oceans and Law of the Sea 1998

https://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm.

as never before.³⁹ To promote responsible ocean governance, the need for codification arose. In fact, some measures were necessary to demarcate some form of restriction over the unlimited exploitation of marine resources, therefore, taking zonal and sectoral aspects into consideration.⁴⁰ Zonal aspects regulate which countries hold authority to prescribe ocean governance regulations while sectoral aspects relate to the category of activity sought to be regulated.⁴¹ Against this background, two important presuppositions underlie contemporary ocean governance. Firstly, the existence and continuation of divided ocean spaces such as international and national maritime zones and its deviating regulations to control human activity related to the ocean.⁴² And in the second instance, the implementation of a series of norms and tools in order to resolve ocean governance issues arising from maritime zonal and sectoral aspects.⁴³

In determining the development of ocean governance, as well as its fundamental legal concepts, this chapter theoretically investigates the emergence of a universal ocean regulatory regime that directs the activities of coastal and other states in respect of their usage of the ocean. The investigation provides the necessary foundation to critically examine contemporary international regulatory systems on ocean governance. It specifically focusses on international legal instruments, such as conventions and treaties, which aim to control and regulate ocean plastic waste pollution.

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- ³⁹ United Nations: Oceans and Law of the Sea 1998
https://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm.
- ⁴⁰ Pyc "The role of the law of the sea in marine spatial planning" 375; United Nation: Oceans and Law of the Sea 1998
https://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm.
- ⁴¹ Singh and Ort "Law and Policy Dimensions of Ocean Governance" 48.
- ⁴² Harrison "Actors and institutions for the protection of the marine environment" 57-80; Singh and Ort "Law and Policy Dimensions of Ocean Governance" 45-46.
- ⁴³ United Nation: Oceans and Law of the Sea 1998
https://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm.

2.2 Theoretical principles

2.2.1 Historical foundations

As indicated above, before the codification of the law of the sea (UNCLOS), the ocean was viewed as an open-access resources regime, that was available for all to use and enjoy. No one owned or had the legal capacity to exercise control over or restrict access to marine resources.⁴⁴ Under this regime, the oceans generated claims, sovereignty disputes and were environmentally exploited. Overfishing and overcapitalisation became the norm, as there were no restrictions on maritime zones and the use of its resources.⁴⁵ Mansfield⁴⁶ therefore correctly argued that property regimes are necessary to constrain individual behaviour, and to curb the overcapitalisation and use of resources.⁴⁷ The relevance of property regimes for the governance of access and use rights in the ocean is discussed elsewhere⁴⁸ and does not form the focus of this study. It is however, necessary to recognize the origin of sovereignty over the ocean. This is best illustrated with reference to the property regimes of the Roman law, as well as the more contemporary regimes of open-access and common-pool resources. Under *res publicae*, access to a resource is regulated by a government's regulatory powers in respect of access, protection and utilisation of the source by adopting and implementing institutional management approaches in order to sustain the resource for present and future generations.⁴⁹ Open-access resources can simply be defined as "common-pool" resources that any person can

⁴⁴ Ruddle "Changing the Focus of Coastal Fisheries Management" 63.

⁴⁵ Hardin describes the "commons" as un-owned or commonly held resources that are free to be used and which are not allocated to a certain market. These resources are available to man at any given time for an amount as much as the individual requires. Hardin further reasons that when a source is held in common with people whom have infinite ownership and access to it; the resource will be exploited by the self-centered nature of the individual. The system in which states considered the ocean as an open-access area is where the concept of exploiting the commons were born. It reiterates that certain jurisdictional restrictions and measures need to be put in place to conserve natural resources from exploitation - Hardin 2009 *Journal of Natural Resources Policy* 243-253.

⁴⁶ Mansfield 2004 *Geoforum* 319.

⁴⁷ Mansfield 2004 *Geoforum* 319.

⁴⁸ Viljoen *Water as Public Property: A Parallel Evaluation of South African and German Law* 58-66.

⁴⁹ Viljoen *Water as Public Property: A Parallel Evaluation of South African and German Law* 58-66.

utilise; however, each person's utilisation of the "common-pool" resources will subtract benefits which other users might enjoy and may lead to resource exploitation.⁵⁰

Three significant phases in history depict the gradual development of ocean governance.⁵¹ Following the phase where coastal states mainly focused on their desires to exploit ocean resources, the idea of ocean sovereignty arose. Sovereignty over the ocean was driven by two concepts namely *mare clausum* (the Portuguese notion) and *mare liberum* (the Dutch notion).⁵² The Portuguese notion was set to award rights to only coastal states, while the Dutch notion held that the freedom of use by all states should prevail.⁵³ In due course, coastal states were awarded with sovereign rights in a designated zone⁵⁴ in order to manage, explore, exploit, and conserve natural marine resources.⁵⁵ Eventually, during the period of World War II, zonal and sectoral divisions were implemented to further lessen the exploitation of marine resources.⁵⁶

The second phase, the period between 1958 and 1982, characterises a time wherein states started to demonstrate a certain amount of awareness regarding the need to regulate human activities based on different oceanic sectors.⁵⁷ An overarching and general governance framework, especially for the high seas was needed.⁵⁸ Consequently, several instruments, amongst others the *1972 Stockholm Declaration* and the UNCLOS were adopted. The UNCLOS provided coastal states with the necessary support to apply enhanced marine environmental protection in that it provided guidelines on compliance and enforcement measures of international standards and regulations.⁵⁹

⁵⁰ Viljoen *Water as Public Property: A Parallel Evaluation of South African and German Law* 58-66.

⁵¹ Rothwell and Stephens *The international law of the Sea*, 2nd ed 516-517.

⁵² Complete power to govern a country or in this instance, certain zones of the ocean.

⁵³ Singh and Ort "Law and Policy Dimensions of Ocean Governance" 46.

⁵⁴ A depth of the continental shelf to 200 meters.

⁵⁵ Article 56 of the United Nations Convention on the Law of the Sea 1982.

⁵⁶ Singh and Ort "Law and Policy Dimensions of Ocean Governance" 46-47; Steinberg *The social construction of the ocean* 189.

⁵⁷ Singh and Ort "Law and Policy Dimensions of Ocean Governance" 46-47; Steinberg *The social construction of the ocean* 189.

⁵⁸ Singh and Ort "Law and Policy Dimensions of Ocean Governance" 51-54.

⁵⁹ Article 73 of UNCLOS; Singh and Ort "Law and Policy Dimensions of Ocean Governance" 51-54.

As per the UNCLOS, the ocean was subsequently divided into seven jurisdictional zones.⁶⁰ These were the Internal Waters,⁶¹ Territorial sea,⁶² Contiguous Zone,⁶³ Exclusive Economic Zone (EEZ)⁶⁴ and the Continental Shelf,⁶⁵ High Seas⁶⁶ and Deep Ocean Floor or the Area⁶⁷ (these coastal zones will be discussed in more detail later on).⁶⁸ The zoning limited the sovereignty, jurisdictional rights and freedom of individual states which exploited marine resources, and placed more emphasis on shared responsibilities between states for the protection and preservation of the marine environment.⁶⁹ The UNCLOS served as the basis for cohesive management and governance of the ocean and later on was further supplemented by diverse treaties and soft law treaties which will be discussed later on in this chapter.⁷⁰

2.2.2 The meaning of ocean governance

The notion of ocean governance developed to have several meanings and objectives. De Sadeleer⁷¹ and Winter⁷² argue that a selection of norms and tools serve to realise certain objectives required to achieve effective ocean governance. Norms can be identified as international policies, concepts, principles and doctrines (whether binding or non-binding or merely as instruments of guidance) that aim to direct the manner in

⁶⁰ Singh and Ort "Law and Policy Dimensions of Ocean Governance" 46-47

⁶¹ Waters that fall landward of the baselines, such as rivers, lakes and tides; The Law of the Sea Primer Project "Chapter 2: Maritime Zones" 11-14.

⁶² Water column 0 – 12 miles; The Law of the Sea Primer Project "Chapter 2: Maritime Zones" 11-14.

⁶³ Water column 12 – 24 miles; The Law of the Sea Primer Project "Chapter 2: Maritime Zones" 11-14.

⁶⁴ Water column up to 200 miles; The Law of the Sea Primer Project "Chapter 2: Maritime Zones" 11-14.

⁶⁵ Seabed and subsoil up to 200 miles; The Law of the Sea Primer Project "Chapter 2: Maritime Zones" 11-14.

⁶⁶ The ocean surface and / or waters beyond the EEZ; The Law of the Sea Primer Project "Chapter 2: Maritime Zones" 11-14.

⁶⁷ Beyond any national jurisdiction and may be used for "peaceful" purposes only such as marine research and / or undersea exploration; The Law of the Sea Primer Project "Chapter 2: Maritime Zones" 11-14.

⁶⁸ Tarmizi *Institutional Framework for Ocean Governance: A Way Forward* 7.

⁶⁹ Freestone 2008 *International Journal of Marine Coastal Law* 386.

⁷⁰ Mustafar *Ocean Governance*; Rothwell and Stephens *The international law of the Sea*, 2nd ed 516-517.

⁷¹ De Sadeleer *Environmental principles: from political slogans to legal rules*.

⁷² Winter "International principles of marine environmental protection" 585-606.

which ocean governance should be implemented.⁷³ These norms include amongst others the following environmental concepts or principles such as the “no-harm” principle, sustainable development, the precautionary approach, prevention or transboundary-harm principles; ecosystem-based approach, environmental impact assessments and the polluter pays principle.⁷⁴ The principles significant to this study, being the polluter-pays, precautionary approach and sustainable development is now discussed very briefly.

The “polluter-pays” principle is considered a distinctive principle in environmental law in that individuals and organisations are obliged to take reasonable measures to prevent and / or remedy pollution and degradation when conducting any activity that might have an impact on the environment.⁷⁵ Section 28(8) of NEMA further empowers the state to remedy pollution or degradation and may recover the costs from the polluter, occupier or owner of the land so to be remedied.⁷⁶ The principle simply implies that whoever pollutes the environment must take the necessary measures to remedy such pollution. The precautionary approach is not a no-risk principle but more one that aims to prevent further harm and degradation to the environment; thus, decision makers are not permitted to postpone regulatory or other interventions simply because there is no scientific evidence or data related to possible risks, damage and irreversible harm.⁷⁷ In the *Pulp Mills*⁷⁸ case the judge made the following observations in respect of the precautionary principle:

Precaution is necessary in the face of not only human fallibility but also human wickedness; the use of knowledge is influenced by State Policy and interest groups; decisions of authorities affect both the present and the future, which is a dimension of the application of precaution, which takes account of the long-term view; precaution has to do with common sense; and the precautionary principle is not to

⁷³ Singh and Ort “Law and Policy Dimensions of Ocean Governance” 51-52.

⁷⁴ De Sadeleer *Environmental principles: from political slogans to legal rules*. Section 28(1) of NEMA imposes an obligation on any person who cause pollution or degradation to the environment to take reasonable measures to prevent and/or remedy the pollution and degradation.

⁷⁵ Kidd 1997 *Environmental Law: A South African Guide*; Verdoorn 2020 LLMO811: Assignment 1 13.

⁷⁶ Henderson 2001 SAJELP 173-174; Verdoorn 2020 LLMO811: Assignment 1 16.

⁷⁷ Glazewski and Plit *Stellenbosch Law Review* 198-200; Verdoorn 2020 LLMO811: Assignment 1 16.

⁷⁸ *Pulp Mills on the River Uruguay (Argentina v Uruguay)* ICJ (2006) (No. 135) par 89-90; Verdoorn 2020 LLMO811: Assignment 1 16.

be equated with over regulation but more properly with reasonable assessment in the face of probable risk and scientific uncertainty.

Lastly, sustainable development is considered the predominant principle in environmental governance against which all other principles are weighed. The concept of sustainable development was recognised only after the Stockholm Declaration linked social and economic development as⁷⁹

Essential for ensuring a favourable living and working environment for man and for creating conditions on earth that is necessary for the improvement of the quality of life.

The article however failed to recognise the most important element which is the environment. In 1987 the World Commission on Environment and Development published a report named "Our Common Future"⁸⁰ in which the report called for the overall transformation of policy and law based on the concept of development.⁸¹ The report explained sustainable development as⁸²

A process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional changes are all in harmony and enhance both current and future potential to meet human needs and aspirations.

Shortly after, in 1990 the Rio Declaration⁸³ followed in which article 4 of the Rio Declaration acknowledged the concept of sustainable development and that in order to achieve same, environmental protection must constitute an integral part of the development process. After the Brundtland Report, the concept of sustainable development became a global aspirational goal; however, deviation still exists as to its meaning and how to effectively implement same.⁸⁴

⁷⁹ Article 8 of the Declaration of the United Nations Conference on the Human Environment (Stockholm) 16 June 1972, A/CONF. 151/26 (Vol I); Feris 2010 *PER* 78; Verdoorn 2020 *LLMO811: Assignment 1 2*.

⁸⁰ Also known as the Brundtland Report 1987 www.un-documents.net; Verdoorn 2020 *LLMO811: Assignment 1 16*.

⁸¹ Verdoorn 2020 *LLMO811: Assignment 1 2*.

⁸² Brundtland Report 1987 www.un-documents.net 46; Verdoorn 2020 *LLMO811: Assignment 1 2*.

⁸³ *Rio Declaration on Environment and Development* 1992. UN Doc A/Conf.151/26; Verdoorn 2020 *LLMO811: Assignment 1 2*.

⁸⁴ Field 2006 SALJ 409; Feris 2010 *PER* 80; Verdoorn 2020 *LLMO811: Assignment 1 2*.

These norms and principles discussed above take on the form of environmental tools to further advance protection of the environment. These tools include amongst other, area-based management tools, environmental policy mechanisms, as well as maritime spatial planning programmes and designated marine protected areas.⁸⁵ The term ocean governance⁸⁶ can thus simply be defined as the incorporation of policies and regulations related promulgated for the protection of the marine environment, thereby ensuring sustainable use of coastal and oceanic resources as well as the conservation of marine biodiversity and ecosystems.

Scholars such as Borgese and Tanaka⁸⁷ suggest three key elements that determine the success of ocean governance. These include a legal framework,⁸⁸ an institutional framework⁸⁹ and mechanisms of implementation⁹⁰ (such as enforcement of the first two elements.) The World Bank further defines good governance as follows:⁹¹

Good governance is epitomized by predictable, open and enlightened policymaking, a bureaucracy imbued with professional ethos acting in furtherance of the public good, the rule of law, transparent processes, and strong civil society participating in public affairs. Poor governance, on the other hand, is characterized by arbitrary policy making, unaccountable bureaucracies, unenforced or unjust legal systems, the abuse of executive power, a civil society unengaged in public life, and widespread corruption.

It is therefore concluded from the above definition of what good governance entails, that good ocean governance would imply a multidisciplinary system that incorporates economic, environmental and social aspects. Economically, it should encourage the development of the ocean environment and its resources;⁹² on an environmental level,

⁸⁵ Singh and Ort "Law and Policy Dimensions of Ocean Governance" 51.

⁸⁶ As defined by the Oxford Dictionary "*the activity or manner of governing*". Governance can also be defined as the "*interaction between formal institutions and those of civil society.*"

⁸⁷ Borgese *The Future of the Oceans, a report to the Club of Rome, Montreal: Harvest House* 43-44; Tanaka "Principles of international marine environmental law" 31-56.

⁸⁸ Binding instruments, conventions and treaties set to guide the institutional bodies on the laws of ocean governance.

⁸⁹ An administrative mechanism necessary to manage use of the ocean by way of establishing institutions and coordination bodies on global, national and regional level.

⁹⁰ The execution of programmes and activities by institutional framework in order to give effect to the legal framework.

⁹¹ Mustafar *Ocean Governance*; Tarmizi *Institutional Framework for Ocean Governance: A Way Forward* 8.

⁹² In a philosophical manner, it's a system in which all users thereof can share in the financial and technological benefits.

it calls for the conservation of the ocean;⁹³ and on a socio-economic level, it discourages the exploitation of marine resources.⁹⁴ Accordingly, administrative structures, ministries, policies and legislation have been developed to achieve economic, social and environmental sustainability.⁹⁵

Ocean governance is implemented on an international, regional and national level. International treaties and conventions provide states with an international legal framework.⁹⁶ These international instruments / conventions are ratified by states after treaty negotiations have taken place.⁹⁷ On a regional level, programmes with action plans are designed to directly address issues regarding marine and coastal environments. The significance of a regional plan will be discussed in chapter 4. Nationally, ocean governance is implemented within coastal states and requires coordination between different actors such as ministries of the government, environmental groups or NGO's and industry and stakeholder groups.⁹⁸ National governance is therefore implemented by way of national legislation motivated by international conventions or treaties and encourages local and indigenous community involvement and management in the co-creation of sustainable environmental policy making.⁹⁹

When the regulatory framework for ocean governance is discussed, it is important to ascertain the relationship between ocean governance and ocean policy. Ocean policy can be defined as:¹⁰⁰

An integrated process to the extent that it recognizes its consequences as decision premises, aggregates them into an overall evaluation and penetrates all policy levels and all government agencies involved in its execution.

⁹³ A call for reservation of peaceful ocean spaces and reservation for future generations.

⁹⁴ Borgese *The Future of the Oceans, a report to the Club of Rome, Montreal: Harvest House* 45. Tarmizi *Institutional Framework for Ocean Governance: A Way Forward* 15; GEF LME: LEARN 2018 *Large Marine Ecosystems Governance Toolkit* 31-33.

⁹⁵ Tarmizi *Institutional Framework for Ocean Governance: A Way Forward* 17-19.

⁹⁶ GEF LME: LEARN 2018 *Large Marine Ecosystems Governance Toolkit* 29-30.

⁹⁷ Treaties applicable within the discussion of this research paper will be discussed in the next section; GEF LME: LEARN 2018 *Large Marine Ecosystems Governance Toolkit* 31-33.

⁹⁸ GEF LME: LEARN 2018 *Large Marine Ecosystems Governance Toolkit* 31.

⁹⁹ A bottom up approach; GEF LME: LEARN 2018 *Large Marine Ecosystems Governance Toolkit* 31.

¹⁰⁰ Underdal 1980 *Marine Policy* 159-169.

Ocean policy is therefore perceived to be an element of ocean governance in that it serves as the foundation on which all activities carried out within the oceanic realm is developed. The spatial dimension, jurisdiction, administrative set up, actors involved, such as governmental and non-governmental institutions and organisations and the interests and issues the policy will need to address, are all elements of an integrated national policy that states will need to develop within their legislative and enforcement measures.¹⁰¹ As such, the notion of sustainable development from a legal point of view relates particularly to marine environmental protection by linking cooperation and coordination across different zones and sectors to harmonise the law adopted within those respective territories.¹⁰²

2.3 International regulatory framework governing ocean plastic waste pollution

In 1992 in Rio De Janeiro, the UN Conference on Sustainable Development was held in which Agenda 21,¹⁰³ a comprehensive plan of action to build a global partnership between participating countries on the path towards sustainable development,¹⁰⁴ was adopted. All member states to this agenda further adopted the Millennium Development Goals (MDGs) at the Millennium Summit in 2000.¹⁰⁵ The main objective was *"to reduce extreme poverty by 2015."* In June 2012, at Rio de Janeiro (Rio+20) the Sustainable Development Goals (SDGs) were introduced.¹⁰⁶ The objective was to provide a set of universal goals that aim to meet urgent environmental, political and economic challenges faced globally.¹⁰⁷ These goals were set to build upon the MDG's. During January 2015 further negotiations were initiated by the General Assembly regarding a post-2015 development agenda. Subsequently, the 17 SDG's were

¹⁰¹ Repetto *Towards an Ocean Governance Framework and National Ocean Policy for Peru* 18-21.

¹⁰² Singh and Ort "Law and Policy Dimensions of Ocean Governance" 46-47.

¹⁰³ Same was ratified and accepted by 178 countries.

¹⁰⁴ Sustainable Development Goals Knowledge Platform 2020
<https://sustainabledevelopment.un.org/sdgs>.

¹⁰⁵ The MDG's were initially established to tackle extreme poverty and hunger by developing measurable and universally-agreed objectives for preventing deadly diseases and expanding primary education to all children.

¹⁰⁶ Sustainable Development Goals Knowledge Platform 2020
<https://sustainabledevelopment.un.org/sdgs>.

¹⁰⁷ Sustainable Development Goals Knowledge Platform 2020
<https://sustainabledevelopment.un.org/sdgs>.

introduced.¹⁰⁸ The negotiations concluded the subsequent adoption of the 2030 Agenda for Sustainable Development¹⁰⁹ during the UN Earth Summit September 2015.

SDG 14¹¹⁰ has specific relevance for this research paper as it addresses issues related to sustainable sourcing, environmental investment, ocean acidification, marine biodiversity, spills and water discharge into oceans. SDG 14 seems to have a noticeable impact on ocean governance when the 2017 SDG Policy Brief is observed.¹¹¹ In fact, since the adoption of the 17 SDGs, 109 countries dedicated their focus toward the Global Programme of Action for the protection of the marine environment; at least 143 countries joined eighteen Regional Seas Conventions and Action plans; twelve countries issued Protocols and Annexes on land-based sources of pollution and 30 countries joined the Clean Seas Campaign on marine litter.¹¹² By addressing marine pollution same will contribute to achieving other SDGs such as:¹¹³

- SDG 1: Recycling programmes will employ local community members thereby creating jobs and reducing poverty levels as more citizens will be able to care for themselves financially;
- SDG 11: The use of plastic waste and recyclable materials to construct roads and housing will lessen the pressure on waste management facilities and contribute to sustainability and sustainable living through waste repair and re-use technologies;
- SDG 12: The entire life cycle of plastic from sustainable production to sustainable disposal will reduce plastic waste ending up in landfills as well as the disposal thereof into the ocean. Responsible production, usage and disposal will ensure less waste; and lastly

¹⁰⁸ Sustainable Development Goals Knowledge Platform 2020
<https://sustainabledevelopment.un.org/sdgs>.

¹⁰⁹ Transforming our world: the 2030 Agenda for Sustainable Development 21 October 2015
A/RES/70/1.

¹¹⁰ SDG 14; Transforming our world: the 2030 Agenda for Sustainable Development 21 October 2015 A/RES/70/1.

¹¹¹ UNEP 2017 Policy Brief *Oceans: Marine Pollution 2*.

¹¹² CleanSeas 2020 <https://www.cleanseas.org/>; UNEP 2017 Policy Brief *Oceans: Marine Pollution 2*.

¹¹³ UNEP 2017 Policy Brief *Oceans: Marine Pollution 1*.

- SDG 14: as already discussed, the sustainable use and conservation of the ocean lies within proper waste management systems to avoid (thereby applying the precautionary approach)¹¹⁴ plastic waste from entering the ocean thereby protecting marine ecosystems and resources.

Although the SDG-initiative is monumental, the author hereof posits, with others, that the progress towards the realisation of the SDGs, is inadequate.¹¹⁵ This leaves the question as to whether existing soft law instruments set to promote the responsible use of ocean resources are indeed sufficient to combat increasing ocean acidification, worsening coastal eutrophication, adverse effects of overfishing, and marine plastic pollution.¹¹⁶

Although the 2030 Agenda is not legally binding, international sea treaties and conventions are generally binding on states that have ratified or acceded to the convention. They define rights and responsibilities of states with respect to their use of the world's oceans. Such instruments *inter alia* establish guidelines for coastal states on the use of the environment and the management of marine natural resources.

2.3.1 The UN Convention on the Law of the Sea

As indicated in the introductory paragraph above, the UNCLOS was monumental. It entered into force in 1994 with 167 signatory parties. Its adoption provides for an overarching regulatory framework for conduct in relation to economic interests, regulating fishing, navigation, exploration and exploitation of natural resources at sea.¹¹⁷ Exploration of the deep seabed and protections of the entire marine environment is also regulated by the convention.¹¹⁸ Notably, the UNCLOS divided the

¹¹⁴ Although a general understanding exists as to the detrimental impacts of plastic waste in the environment, there is minimal research done and concluded on the impacts of plastic waste on the human body and health through consumption and / or the existence of micro plastics in consumer products. As such, due to the lack of scientific data in this respect, it is vital to apply precautionary measures to avoid harmful future impacts.

¹¹⁵ United Nations Economic and Social Council 2019 *Special edition: Progress towards the Sustainable Development Goals* 16.

¹¹⁶ United Nations Economic and Social Council 2019 *Special edition: Progress towards the Sustainable Development Goals* 16.

¹¹⁷ Adangor and Arugu 2018 *African Journal of Law and Criminology* 65-84.

¹¹⁸ Barboza *et al* "Chapter 17 – Macroplastics Pollution in the Marine Environment".

seas into various zones thereby providing coastal states with limited jurisdiction in respect of the different maritime zones.¹¹⁹ The UNCLOS binds all member states with the joint responsibility of conserving and protecting the marine environment.¹²⁰

Derived from the limited definition of pollution, as per the convention, the UNCLOS does not deal directly with concerns regarding marine pollution and litter from land based activities. The UNCLOS rather encourages states to develop their own policies, laws and regulations to reduce, control and prevent marine pollution, for their allocated zones. It does not provide proper guidance on the specifics of these laws.¹²¹ As such, alternative protocols and conventions will be discussed and considered.

2.3.2 The London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter of 1972

The London Convention was adopted in 1972; however, only enacted in 1975 as one of the first international agreements on the protection of the marine environment against harmful human activities.¹²² Its main objective is

To promote the effective control of all sources of marine pollution and to take all feasible steps to prevent pollution of the sea by regulating and controlling dumping of wastes and other matter.¹²³

Currently, 87 states are parties to this Convention, including Australia and South Africa. Under the definition of "dumping", the Convention refers to "*...any deliberate disposal at sea of waste or other matter from vessels, aircraft, platforms or any other manmade structures at sea or of such structures themselves.*"¹²⁴ It is pertinent to point out that this definition does; however, not include the dumping of waste during normal operations for purposes other than the disposal thereof.¹²⁵ Waste is also very broadly

¹¹⁹ Barboza *et al* "Chapter 17 – Macroplastics Pollution in the Marine Environment".

¹²⁰ Article 192 of UNCLOS.

¹²¹ Article 221 of the UNCLOS.

¹²² The London Convention (1972).

¹²³ Article 1. Of the London Convention.

¹²⁴ Article 3 of the London Convention. Zou and Lei 2017 *Asia-Pacific Journal of Ocean Law and Policy* 248.

¹²⁵ Zou and Lei 2017 *Asia-Pacific Journal of Ocean Law and Policy* 248.

defined as any material or substance in any form or manner.¹²⁶ The Convention is yet to be subsequently by the London Protocol but same has not realised.

2.3.3 *The London Protocol*¹²⁷

The London Convention and London Protocol are two global treaties aiming to regulate ocean dumping. Although the purpose of the Protocol was to initiate new modernised principles, and eventually replace the London Convention, parties to the London Convention decided to retain it as an active agreement in the hopes that its existing member states and new countries would all join the London Protocol; this however did not realise as they had hoped.¹²⁸

The main objective of the London Protocol aims at protecting the marine environment by fully embracing the precautionary principle¹²⁹ and prohibiting the dumping of wastes and other matter,¹³⁰ except for those on the prescribed list. Annexure 1 of the London Protocol lists the following materials that may well be considered for dumping:

Dredged material; sewage sludge; fish wastes or material resulting from industrial fish processing operations; vessels and platforms or other man-made structures at sea; inert, inorganic geological material; organic material of natural origin; bulky items primarily comprising iron, steel, concrete and similarly harmless materials for which the concern is physical impact and limited to the circumstances where such wastes are generated at locations with no land-based alternatives; and carbon dioxide streams from carbon dioxide capture processes for sequestration in sub-seabed geological formations.¹³¹

All parties adopted a set of Compliance Procedures¹³² in relation to Article 11 of the Protocol. It established a subsidiary body, the Compliance Group, that conducts the meeting of contracting parties and provides advice and guidance on matters related

¹²⁶ Zou and Lei 2017 *Asia-Pacific Journal of Ocean Law and Policy* 248.

¹²⁷ Of 1996.

¹²⁸ Hong and Lee 2015 *Marine Policy* 50-52.

¹²⁹ Article 3 of the Protocol; The precautionary approach can simply be defined as an approach used when there are possible threats of serious or irreversible damage, but a lack of full scientific certainty exists. However, the lack of full scientific uncertainty should not be used as a reason for postponing measures to prevent environmental degradation - Henderson 2001 *SAJELP* 161-162.

¹³⁰ Material – or anything that has mass and can take up space.

¹³¹ Annexure 1 of the London Protocol.

¹³² Compliance Procedures and Mechanisms pursuant to Article 11 of the 1996 Protocol to the London Convention 1972 LC 29/17 annex 7.

and regulated by the Protocol.¹³³ The Compliance Procedures and Mechanisms document serve to promote and assist member states to comply in accordance with the Protocol and allow the exchange of information in a productive manner.¹³⁴

The London Convention and Protocol are relevant in terms of their foundation and the objectives they propose, but neither of them are legally enforceable on countries other than those states who have ratified same. Furthermore, both the Convention and Protocol do not guide states efficiently as to the manner in which to regulate plastic waste disposal and dumping at sea in respect of plastic. The treaties merely encourage states to work together but do not specify how the objectives should be met.

2.3.4 Annex V of MARPOL 73/78

The MARPOL Annex V currently has 154 ratifications after the MARPOL Convention entered into force on 31 December 1988.¹³⁵ Annex V intends to eliminate and reduce the amount of garbage being dumped or discharged into the sea from ships.¹³⁶ The treaty applies to commercial ships, fixed or floated platforms within the ocean surface as well as non-commercial ships like yachts or pleasure crafts.¹³⁷ Annex V explicitly prohibits the discharge of any form of garbage whether it be cargo residue, food waste, cleaning agents and additives as well as animal carcasses.¹³⁸ Garbage furthermore includes operational and domestic water, incinerator ashes, all kinds of food, cooking oil and fish gear.¹³⁹

The enactment of Annex V is the most ambitious effort on a global level to stop marine pollution resulting from operational activities and accidents at sea. Since its implementation, oil discharge from ships has decreased¹⁴⁰ yet it does not relate

¹³³ International Maritime Organization 2020
<http://www.imo.org/en/OurWork/Environment/LCLP/Compliance/Pages/default.aspx>; Hoon Hong and Joon Lee 2015 *Marine Policy* 50-52.

¹³⁴ Hong and Lee 2015 *Marine Policy* 50-52.

¹³⁵ International Maritime Organisation 2020
<http://www.imo.org/en/OurWork/Environment/PollutionPrevention/Garbage/Pages/Default.aspx>

¹³⁶ Article 2 of Annex V of MARPOL 73/78.

¹³⁷ Annex V of MARPOL.

¹³⁸ Regulations 4, 5, 6 and 14 of MARPOL Annex V.

¹³⁹ Regulations 4, 5, 6 and 14 of MARPOL Annex V

¹⁴⁰ Szepes 2013 *Manchester Student Law Review* 103-104.

specifically to the issue of plastic waste pollution ending up in the oceans and how to prevent same unless it derives from ships or other cargo on the sea. For purposes of this study, the MARPOL Annex V will not provide sufficient guidance on addressing the plastic pollution issue as it only relates to dumping of waste from ships and not dumping or litter of plastic waste descending from human and land based activities.

2.3.5 Basel Convention on the control of transboundary movements of hazardous wastes and their disposal 1989

The Basel Convention is concerned one of the momentous international agreements concerning plastic waste pollution.¹⁴¹ To date, 175 parties have ratified the agreement, which include top plastic waste exporters, except the United States.¹⁴² The main objective of the Convention is to safeguard the environment and from the toxicity of hazardous waste. Annex I of the Basel Convention lists the materials to be considered as hazardous waste specifically in terms of this convention. The Convention was introduced in response to the “toxic trade”, in which industrialised countries used developing countries as dumping grounds for their unwanted and often dangerous waste.¹⁴³

The Convention; however, does not specifically deal with plastic waste deriving from everyday consumer consumption, as it mainly focuses on waste that contains specific hazardous characteristics or is classified as household waste.¹⁴⁴ In addition thereto, the Convention conveys that it restricts the transboundary movement of hazardous waste; however, from studying the sections, it fails to provide any insight or guideline on targets or timelines to reduce the movement of transboundary waste. It further lacks to address the lifecycle of plastic and its impact on the environment. Current waste management strategies and treaties in relation to plastic waste only deal with the post-consumer stage, yet fails to introduce any tactics on reducing plastic

¹⁴¹ Centre for International Environmental Law 2018 <https://www.ciel.org/plastic-waste-proposal-basel-convention/>

¹⁴² UNEP 2020 <https://www.unenvironment.org/resources/report/basel-convention-control-transboundary-movements-hazardous-wastes>.

¹⁴³ UNEP 2020 <https://www.unenvironment.org/resources/report/basel-convention-control-transboundary-movements-hazardous-wastes>.

¹⁴⁴ Article 1 of the Basel Convention.

production and consumption, or replacing same with an alternative environmentally friendly material.

2.3.6 Stockholm Convention on Persistent Organic Pollutants

The Stockholm Convention on Persistent Organic Pollutants (POPs) is a global treaty that "*...aims to protect humans and the environment from adverse effects from POPs.*"¹⁴⁵ POPs is a form of chemical found in the fatty tissue of living organisms. It can remain within the environment for an extensive time period thereby, posing as a toxic threat to human and marine life.¹⁴⁶ The Stockholm Convention entered into force on 17 May 2004 and to date 184 parties have ratified the Convention. The Convention adopts the precautionary approach on implementation by urging governments to take measures to completely disregard or decrease the release of POPs into the environment.¹⁴⁷ Measures suggested by the Stockholm Convention include:¹⁴⁸

- Eliminating dangerous POPs in products starting with the first 12 listed in Annex A of the Convention;
- Support and investigate the transition to safer alternative chemicals;
- Target any other additional POPs that might enter the environment through waste and consumer waste disposal
- Cleaning up old stockpiles and equipment from out the environment that contain POPs; and
- Urging all states to work together whether it be by contributing financially, or knowledge wise in achieving a POPs-free future.

¹⁴⁵ Harmful chemicals listed in Annex A of the Stockholm Convention 2001.

¹⁴⁶ United Nations Industrial Development Organisation 2020 <https://www.unido.org/our-focus-safeguarding-environment-implementation-multilateral-environmental-agreements/stockholm-convention>.

¹⁴⁷ Article 1 and 8 of the Stockholm Convention.

¹⁴⁸ Article 6 of the Stockholm Convention; United Nations Industrial Development Organisation 2020 <https://www.unido.org/our-focus-safeguarding-environment-implementation-multilateral-environmental-agreements/stockholm-convention>.

The Global Environmental Facility (GEF) is busy investigating strategic circular economy initiatives to address and transform the plastic life cycle, as plastic might also consist of POPs. The GEF¹⁴⁹ will focus on public and private investments to promote closed loop production and consumption patterns.¹⁵⁰ The Stockholm Convention acknowledges that plastic waste contains dangerous chemicals such as POPs, therefore, it is crucial for states to engage in working together to eliminate these chemicals from production in order to prohibit POPs from entering the environment from the outset.

2.3.7 The Honolulu Strategy

The Honolulu Strategy of 2011 focuses specifically on marine debris. It is not necessarily designed for direct implementation but rather as a means to support countries and connect their actions with stakeholders in various geographic contexts and on different governmental levels. The strategy aims to serve two purposes:¹⁵¹

- To address and formulate a holistic approach to the issue of marine debris; and
- To guide countries on their monitoring and evaluation progress of efforts and achievements by using different strategies at different levels of implementation such as local, national and regional.

In order to reduce the threats of marine debris the Honolulu Strategy identifies three goals consisting of:¹⁵²

- The introduction of beach litter bans and clean up initiatives so as to reduce the amount of land-based litter and solid waste entering the ocean;¹⁵³

¹⁴⁹ An interim financial mechanism to support the Stockholm Convention.

¹⁵⁰ United Nations Industrial Development Organisation 2020 <https://www.unido.org/our-focus-safeguarding-environment-implementation-multilateral-environmental-agreements/stockholm-convention>.

¹⁵¹ UNEP 2015 *The Honolulu Strategy A global framework for prevention and management of marine debris* 1-2.

¹⁵² UNEP 2015 *The Honolulu Strategy A global framework for prevention and management of marine debris* 1-2; Annex 1 of the Honolulu Strategy.

¹⁵³ Goal A of the Honolulu Strategy.

- The prohibition of cargo dumping such as abandoned nets and vessels;¹⁵⁴ and
- Reducing the amount of marine debris on shorelines and open waters such as rivers and lagoons entering the ocean.¹⁵⁵

This strategy can be used as a helpful tool while drafting and enforcing legislation by implementing its three goals as mentioned above to direct legislation towards the desired outcome, that is, to minimise and / or avoid the dumping and entering of marine plastic debris.

2.3.8 Global Partnership on Marine Litter

Various stakeholders have adopted The Global Partnership of Marine Litter of 2012. This programme aims to bring together all actors, businesses and partners involved in working to prevent marine litter and micro plastics.¹⁵⁶ It further promotes the sharing of knowledge and experience between actors in advancing solutions. Its main purposes are in line with SDG 14, namely, *"to prevent and significantly reduce marine pollution of all kinds by 2025."*

The Partnership was launched during the 2012 UN Conference on Sustainable Development in Rio de Janeiro. The partnership recognises and promotes implementation of the Honolulu Strategy, as mentioned above, to encourage information sharing, knowledge management and monitoring progress.¹⁵⁷ The partnership furthermore aims to increase awareness on the sources and impacts of marine litter in the environment and to promote economic development by means of waste prevention (reduce, re-use, recycle and re-design) as well as recovering valuable materials and energy from waste.¹⁵⁸

¹⁵⁴ Goal B of the Honolulu Strategy.

¹⁵⁵ Goal C of the Honolulu Strategy.

¹⁵⁶ The Global Partnership on Marine Litter 2012 Platform 2020 <http://marinelitternetwork.com/the-partnership/>.

¹⁵⁷ The Global Partnership on Marine Litter 2012 Platform 2020 <http://marinelitternetwork.com/the-partnership/>.

¹⁵⁸ The Global Partnership on Marine Litter 2012 Platform 2020 <http://marinelitternetwork.com/the-partnership/>.

2.3.9 UN Environment Assembly Resolution 1/6: Marine plastic debris and micro plastics

This Resolution aims to "*prevent and significantly reduce marine pollution of all kinds, in particular, from land-based activities, including marine debris and nutrient pollution*" by 2025. It does not include any hard targets but calls for action against marine plastic litter and pollution by promoting long-term elimination of litter and micro plastics discharge into the environment.¹⁵⁹ Actions include avoiding degradation of marine ecosystems, urging all actors to step up actions in respective states to reduce all forms of marine pollution. It further urges all member states to prioritise their policies and implementation measures so as to prevent from the outset, the release of litter and micro plastics into the ocean, provided they be kept up to date with the latest data related to levels of marine litter and micro plastics in the environment.¹⁶⁰ Resolution 1/6 sets out certain goals among others to phase out microbeads; interim as well as long-term upstream reduction; encouraging states to agree on a new definition of biodegradable,¹⁶¹ banning single-use plastics; and lastly, identifying gaps in ocean governance framework on national, regional and local level.¹⁶²

2.3.10 UN Environment Programme (UNEP) Clean Seas Campaign

The Clean Seas Campaign established during 2017 has introduced a three-phased strategy over a period of five years (2017-2021) to identify the main sources of marine plastic litter.¹⁶³ The campaign focuses on bringing all national movements against marine litter under one umbrella and provides information and its collected material available in multiple languages.¹⁶⁴ This campaign, like the Honolulu Strategy and Resolution 1/6 of the UN Environment Assembly, intends to ban all single-use plastics

¹⁵⁹ UNEP 2016 *Marine plastic debris and microplastics – Global lessons and research to inspire action and guide policy change 20-21*.

¹⁶⁰ UNEP 2016 *Marine plastic debris and microplastics – Global lessons and research to inspire action and guide policy change 20-21*; Sustainable Development 2018 "Implementation of Resolution 3/7 Marine litter and micro plastics" 3.

¹⁶¹ As same does not decrease the issue of marine litter.

¹⁶² Sustainable Development 2018 "Implementation of Resolution 3/7 Marine litter and micro plastics" 3.

¹⁶³ UNEP 2017 "Towards a Pollution-Free Planet: The Clean Seas Campaign on Marine Litter".

¹⁶⁴ UNEP 2017 "Towards a Pollution-Free Planet: The Clean Seas Campaign on Marine Litter".

and microbeads in consumer products within the next five years thereby working together with governments and private sectors in changing their business practices.¹⁶⁵

Furthermore, the UNEP encourages governments to establish action plans and policies to promote marine litter reduction on a national and regional level, as well as national management systems to measure, control and reduce their plastic footprint.¹⁶⁶ In addition, the UN Environment urges private sectors to commit towards reducing plastic production by implementing a new design on packaging; improving reporting measures on marine litter reduction actions and working together with active partners and other actors to raise awareness.¹⁶⁷

2.4 Concluding remarks

International ocean governance, in the form of soft law and binding instruments, developed over a significant period of time to address threats on the marine environment. Of specific relevance, is the international framework of UNCLOS that has been developed to govern the interaction of coastal states with marine resources by the establishment of coastal and maritime boundaries so as to regulate seabed exploration outside of territorial waters and to distribute and share among each other revenue from regulated exploration.¹⁶⁸ As provided for in the UNCLOS, this chapter established that states have an obligation to endorse international commitments and their goals within local legislation. Such international commitments relate to sustainable use and conservation of the ocean and its resources by applying the precautionary approach¹⁶⁹ in respect of waste disposal. Additional commitments include setting up action plans and management systems on national and regional

¹⁶⁵ UNEP 2017 "Towards a Pollution-Free Planet: The Clean Seas Campaign on Marine Litter".

¹⁶⁶ UNEP 2017 "Towards a Pollution-Free Planet: The Clean Seas Campaign on Marine Litter".

¹⁶⁷ UNEP 2017 "Towards a Pollution-Free Planet: The Clean Seas Campaign on Marine Litter".

¹⁶⁸ UNCLOS preamble.

¹⁶⁹ The precautionary principle is not a no-risk principle but more one that aims to prevent further harm and degradation to the environment; thus, it is not permitted to postpone regulatory or other interventions simply because there is no scientific evidence or data related to possible risks, damage and irreversible harm due to an activity taken on that implicates the environment.

level for the promotion of marine litter reduction in order to measure and reduce the plastic footprint.¹⁷⁰

Various other international instruments, like the London Convention, London Protocol, Stockholm and Basel Conventions set goals for the prevention and control of marine pollution from illegal dumping and garbage from ships. The research indicated that said Conventions, however, fail to prescribe practices and action plans for states to implement such measures as it is mostly written in a top-down manner. On a brighter side, the Honolulu Strategy, Resolution 3/7 of the UN Environment Assembly, Global Partnership on Marine Litter and the Clean Seas Campaign respectively aim to ban single-use plastics, and to identify and create awareness of the impacts of plastic waste on the marine environment. They are of particular relevance as they institute initiatives and campaigns to deal with eliminating plastic waste from out the ocean.

International instruments cannot be implemented on their own. They are dependent on coastal states to develop action plans for regional seas and national legislation for the governance of plastic waste in the ocean. International instruments provide guidance on what should be achieved and how it can be done, but the responsibility lies with each state to enforce these principles and practices on a national, regional and local government level. Other than those industries depending directly on marine ecosystem services and its biodiversity, all stakeholders share equal responsibility for the conservation and sustainable use of the ocean and marine resources, and how effectively they control their waste.¹⁷¹ The only manner in ensuring conservation of the ocean for future generations, depends on enhanced scientific research and effective implementation of international legal instruments which regulate various ocean activities, plus a comprehensive and integrated ocean management approach.¹⁷²

¹⁷⁰ UNEP 2017 "Towards a Pollution-Free Planet: The Clean Seas Campaign on Marine Litter".

¹⁷¹ SDG 14.

¹⁷² Chircop "Selected documents and proceedings: Oceans and the Law of the Sea Report of the Secretary-General, 2005" 683.

As such, national legislation endorsing these international commitments will be explored in Chapter 3 by focussing on Australia as a legal example. Subsequent thereto, South African legislation in respect of ocean governance and plastic waste management will be examined against the suppositions distilled from the Australian regulatory framework.

Chapter 3 - The marine plastic pollution regulatory framework of Australia

3.1 Introduction

In achieving integrated and sustainable management of the ocean, ocean governance and ocean policy arise as the mechanisms states need to embrace to develop action plans and legislation on a national, regional and local level. International treaties and conventions, whether binding or not, as discussed in the previous chapter, constitute the foundation of commitments and obligations in respect of sustainable ocean usage. It then falls onto individual states to develop action plans in order to realise the global goal of sustainable ocean usage and conservation. Since the 1970's, Australia has been involved in negotiations in respect of the laws of the sea by supporting strong initiatives against marine pollution and significant actions against illegal, unreported and unregulated fishing activities.¹⁷³ The Australian regulatory framework specifically provides for 1) the implementation of international law and instruments that deal with at-sea disposal and governance as those discussed in chapter 2.3; 2) the protection of threatened ecosystems and species through various innovative initiatives; and 3) the development of national waste management policies which will be discussed further on.¹⁷⁴

This chapter is set to examine the Australian regulatory framework that addressed marine plastic pollution and is expected to constitute a "model" that may potentially inform the South African regulatory framework. To this end, the chapter is divided into two parts, of which the first briefly sets out historical developments of Australia's ocean regulatory framework by discussing the development and implementation of relevant policies, legislation as well international instruments by using same as guidelines in achieving its own objectives. The second part examines various innovative initiatives to reduce and re-use plastic waste and elucidates how and to what extent plastic waste

¹⁷³ Haward and Vince 2009 *Coastal Management* 2-3.

¹⁷⁴ Parliament of Australia 2016
https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Marine_plastics/Report/c04

is regulated in Australia. The chapter concludes with reflections on the relevance of the Australian regulatory framework for addressing marine plastic pollution.

3.2 Historical perspectives

Chapter 2 above showed that, during the late 1960's and early 1970's, intergovernmental tensions arose between states regarding coastal zone management and jurisdictional rights following the discovery of offshore oil and gas.¹⁷⁵ Australia was the first country to enact a comprehensive oceans policy built on sectorial and jurisdictional mechanisms comprising of clear vision, goals, principles and policy guidance to ascertain proper management and jurisdictional rights over marine resources.¹⁷⁶ The policy was adopted on 8 December 1995 and suggested a wide-range implementation system comprising of initiatives and actions and Regional Marine Plans that would be binding on all Commonwealth states.¹⁷⁷

The policy is two-dimensional in respect of environmental protection as well as economic development as it provides for an integrated eco-system based planning and management approach related to different marine jurisdictions.¹⁷⁸ Implementation of the policy entails institutional arrangements such as regional plans, as well as diverse processes of consultation among different levels of government spheres together with the community. In order to effectively implement the ocean policy, the following institutional arrangements were introduced:¹⁷⁹

- A decision-making body was announced, namely the National Oceans Ministerial Board and was placed in charge of all matters related to Regional Marine Plans. The board was; however, dissolved in 2004 whereinafter the Minister of Environment and Heritage took on the lead responsibility.¹⁸⁰ The National Advisory group now provides advice to the minister on all ocean policy related matters;

¹⁷⁵ Haward and Vince 2009 *Coastal Management* 5.

¹⁷⁶ Repetto *Towards an Ocean Governance Framework and National Ocean Policy for Peru* 30-32.

¹⁷⁷ Haward and Vince 2009 *Coastal Management* 4-7.

¹⁷⁸ Commonwealth of Australia *Australia's Ocean Policy* 2; Repetto *Towards an Ocean Governance Framework and National Ocean Policy for Peru* 30-32.

¹⁷⁹ Commonwealth of Australia *Australia's Ocean Policy* 15-16.

¹⁸⁰ Commonwealth of Australia *Australia's Ocean Policy* 15-16.

- Regional Marine Plan Steering Committees collaborated with the National Ocean Office and Minister of Environment regarding the supervision related to the development of regional marine plans.¹⁸¹
- The National Oceans office was established to support the Minister of Environment, the Advisory Committee as well as the Regional Marine Steering Committees.

Australia accordingly set the foundation for ocean governance by establishing a national framework of guidance involving not only government agencies but also various actors, stakeholders, the community, NGO's, academics and scientists.¹⁸²

3.3 Regulatory framework

Australia is a party to several international conventions and treaties related specifically to marine pollution and marine debris. In order to give effect to its international obligations under these instruments and conventions, Australia has implemented same within its national regulatory framework.

3.3.1 The Hazardous Waste Act 6 of 1989

In order to comply with its obligations in terms of the Basel Convention 1992, which "*...aims to protect human health and the environment against the adverse effects of waste disposal and other hazardous materials,*" Australia has implemented the Hazardous Waste Act 6 of 1989 (the Waste Act) which regulates the import and export of hazardous waste. The 1989 Hazardous Waste act only controlled the movement of waste such as from incineration or landfill disposals.¹⁸³ In 1996 the Act was amended to include all waste that possess financial value and which are destined for recycling and/or recovery operations.¹⁸⁴ This Act envisions for hazardous waste to be discarded

¹⁸¹ Commonwealth of Australia *Australia's Ocean Policy* 15-16.

¹⁸² Commonwealth of Australia *Australia's Ocean Policy* 15-16.

¹⁸³ Australian Government: Department of Agriculture, Water and the Environment date unknown <https://www.environment.gov.au/protection/hazardous-waste/about>.

¹⁸⁴ Australian Government: Department of Agriculture, Water and the Environment date unknown <https://www.environment.gov.au/protection/hazardous-waste/about>.

in a safe manner so as to safeguard and ensure that both within and outside Australian borders, the oceanic environment is protected from the harmful effects of waste.¹⁸⁵

Further to the above, the Hazardous Waste in Australia Report 2019¹⁸⁶ revealed an increase of 34% of generated hazardous waste (during 2017-2019) which called for urgent consultations between the Australian Department of Environment, relevant industries, state governments and NGOs regarding the improvement of national data waste reporting.¹⁸⁷ The Department as such, instituted a national electronic tracking and data system, to track the inter and intra-state movement of hazardous and controlled waste.¹⁸⁸

3.3.2 Protection of the Sea (Prevention of Pollution from Ships) Act 41 of 1983

Australia fulfils its duties under Annex V of the MARPOL Convention, in regulating garbage pollution from ships. The discharge of plastic along Australia's coastline has also been prohibited under Annex V of MARPOL since 1988 while each country is urged to maintain a record book of all garbage on ship (not applicable to small fishing vessels). This is implemented through section 26FA of the *Protection of the Sea (Prevention of Pollution from Ships) Act 41 of 1983*.¹⁸⁹

This Act further includes a number of enforcement related provisions derived from the UNCLOS such as: section 26G which prescribes that foreign ships are required to report on their dumping actions at sea; section 27 prescribes the arrest of foreign ships should such ships be suspected of any involvement in a pollution breach; section 29(2) prescribes that should a foreign ship within Australian borders be suspected of a pollution breach, proceedings to be suspended if the flag state of the foreign ship has already initiated its own proceedings and finally section 27C prescribes that if an

¹⁸⁵ Australian Government: Department of Agriculture, Water and the Environment *National Waste Reporting 2013* 4.

¹⁸⁶ Latimer *Hazardous Waste in Australia 2019* viii.

¹⁸⁷ Australian Government: Department of Agriculture, Water and the Environment date unknown <https://www.environment.gov.au/protection/hazardous-waste/about>; Australian Government: Department of Agriculture, Water and the Environment *National Waste Reporting 2013* 4.

¹⁸⁸ Australian Government: Department of Agriculture, Water and the Environment date unknown <https://www.environment.gov.au/protection/hazardous-waste/about>

¹⁸⁹ Australian Government: Department of Environment and Energy 2017 Draft Threat Abatement Plan.

Australian ship enters into the territorial sea or EEZ of a foreign country, it is obliged to provide any information required by the foreign country to determine whether or not a pollution breach has occurred.

3.3.3 The Environment Protection Act 101 of 1981 (the Sea Dumping Act or EPA)

The *Sea Dumping Act*¹⁹⁰ of Australia primarily regulates the dumping of waste at sea. This Act further serves to give effect to Australia's international obligations under the London Protocol "...to prevent marine pollution, by controlling dumping of wastes and other matter."¹⁹¹ Under the *Sea Dumping Act*, the Commonwealth¹⁹² stands to minimise and prevent the threat of pollution by prohibiting dumping of all waste considered harmful to the marine environment and further regulates "acceptable" waste disposal to ensure that environmental impacts are reduced. Permits are required for all sea dumping operations.¹⁹³

3.3.4 The Environmental Protection and Biodiversity Conservation Act 91 of 1999

The Environmental Protection and Biodiversity Conservation Act 91 of 1999 (hereinafter EPBCA) concerns all matters of national environmental importance. Applications for sea dumping projects may require approval under both the EPBCA and the *Sea Dumping Act*; however, these applications can be processed simultaneously under both Acts.¹⁹⁴ To further strengthen this Act, the *Threat Abatement Plan for the Impacts of Marine Debris on Vertebrate Marine Life* (hereinafter the Threat Abatement Plan)¹⁹⁵ was introduced in June 2009 following consultation with relevant parties such as conservation groups and NGO's, environmental industries, as well as territory and local governments by addressing key concerns under section 183 of the EPBCA.¹⁹⁶

¹⁹⁰ 101 of 1981.

¹⁹¹ Australian Government: Department of Environment and Energy 2019 <https://www.environment.gov.au/topics/marine/marine-pollution/sea-dumping/sea-dumping-act>.

¹⁹² The Commonwealth is a voluntary association of 53 independent and equal sovereign states.

¹⁹³ Section 18 of the EPA of 1981.

¹⁹⁴ Australian Government: Department of Environment and Energy 2019 <https://www.environment.gov.au/topics/marine/marine-pollution/sea-dumping/sea-dumping-act>.

¹⁹⁵ Australian Government: Department of Environment and Energy 2017 *The Threat Abatement Plan Draft for the impacts of marine debris on vertebrate marine life 2-4*.

¹⁹⁶ Australian Government: Department of Environment and Energy 2020 <https://www.environment.gov.au/marine/marine-pollution/marine-debris>; Section 183 of the

Section 270 of the EPBCA describes the process according to which a Threat Abatement Plan is developed and implemented. The purpose of the Threat Abatement Plan will be to prescribe specific targets and time periods to ensure a coordinated national approach on tackling marine debris and its impact on ocean life. It will further review existing policies, conventions and codes of practice on marine pollution.¹⁹⁷ The Threat Abatement Plan further incorporates actions to develop an understanding about micro plastic impacts and potential new technologies in waste management such as packaging, use and disposal.¹⁹⁸ During June 2015 the Australian Senate replaced the 2009 Threat Abatement Plan with the Threat of Marine Plastic Pollution in Australia for inquiry and reporting.¹⁹⁹ The report was tabled on 20 April 2016 by highlighting improved actions required in order to achieve the objectives of the Threat Abatement Plan.²⁰⁰

This Threat Abatement Plan complements the National Waste Policy 2018 (which will be discussed below) and existing policies aim at mitigating the impacts of oceanic debris. The Standing Council on Environment and Water addresses litter at its source by promoting reduce, re-use and recycle *via* encouraging industries to take responsibility during production of materials and the chemicals used during manufacturing.²⁰¹ Furthermore, the Australian Packaging Covenant provides a successful supervising scheme where government and industries work together to reduce environmental impacts of packaging by redesigning same to be more reusable and compostable.²⁰²

EPBCA states that "*A key threatening process is a process that threatens or may threaten the survival, abundance or evolutionary development of a native species or ecological community*"

¹⁹⁷ Australian Government: Department of Environment and Energy 2020

<https://www.environment.gov.au/marine/marine-pollution/marine-debris>.

¹⁹⁸ Australian Government: Department of Environment and Energy 2017 *The Threat Abatement Plan Draft for the impacts of marine debris on vertebrate marine life* 5.

¹⁹⁹ Australian Government: Department of Environment and Energy 2017 *The Threat Abatement Plan Draft for the impacts of marine debris on vertebrate marine life* 5-6.

²⁰⁰ Australian Government: Department of Environment and Energy 2017 *The Threat Abatement Plan Draft for the impacts of marine debris on vertebrate marine life* 6.

²⁰¹ Australian Government: Department of Environment and Energy 2020

<https://www.environment.gov.au/marine/marine-pollution/marine-debris>.

²⁰² Australian Government: Department of Environment and Energy 2020

<https://www.environment.gov.au/marine/marine-pollution/marine-debris>.

3.3.5 National Waste Policy 2018

Australian State and Territory Governments are responsible for managing waste through state or territory legislation, policies, regulations and strategic planning as well as licencing and approving permits for waste transport, storage and disposal.²⁰³ Although each state and territory has different policy frameworks, there is a common understanding and agreement between states and the Federal Australian Government regarding the urgency for an effective waste management plan and it is encouraged that all different states and territories engage in discussions regarding a mutual and rewarding solution.²⁰⁴

In response, the National Waste Policy 2018²⁰⁵ was implemented in December 2018 by the Australian Government to set out new advanced strategies to deal with the issue of plastic waste management. The main focus is firstly, to avoid the source of waste by banning the export of plastic packaging and improve resource recovery and repair. Secondly, to avoid using or purchasing single-use plastics and other waste as much as possible or in the event of having to use same, to develop technology that will reprocess recovered materials into environmentally friendly products that can be used again by consumers.²⁰⁶ This policy aims to work alongside construction companies to build supply and demand for recycled building material which is cost effective and environmentally friendly.²⁰⁷ The policy also aims to educate and create more awareness for the community on plastic waste management and how each person can directly contribute to reaching the “less waste more resources” goal.²⁰⁸ Another important strategy would be the promotion of stewardship in partnering with businesses involved in producing packaging and promoting recovery and recycling thereof.²⁰⁹ This again will promote job creation because for every 10 000 tonnes of

²⁰³ Haleyur et al 2019 *Required Plastic Pollution Mitigation Policy Frameworks 2.*

²⁰⁴ Haleyur et al 2019 *Required Plastic Pollution Mitigation Policy Frameworks 2.*

²⁰⁵ Australian Government: Department of Environment and Energy *National Waste Policy.*

²⁰⁶ Australian Government: Department of Environment and Energy *National Waste Policy Action Plan 2019 1.*

²⁰⁷ Australian Government: Department of Environment and Energy *National Waste Policy Action Plan 2019 1.*

²⁰⁸ Australian Government: Department of Environment and Energy *National Waste Policy 11.*

²⁰⁹ Australian Government: Department of Environment and Energy *National Waste Policy 11*

waste, 9.2 jobs are created.²¹⁰ The National Waste Policy has achieved in attracting governments, businesses and waste recovery industries to invest in resource recovery systems, technical innovation, education programmes and compliance activities.²¹¹ The policy has certainly given effect to more than one SDG in that a number of initiatives are driven by the implementation of the Threat Abatement Plan and National Waste Policy to change production and usage patterns of plastic.²¹² Action plans and strategies have been implemented to deal with plastic waste such as the sustainable disposal, repair and re-use as well as elimination thereof.²¹³

3.4 Innovative plastic waste initiatives

3.4.1 Plastic waste re-use technologies

National Geographic launched "Protecting Paradise"²¹⁴ which investigated the extent of plastic waste pollution and its impacts on remote paradises across Australia's coastline. The documentary reveals dooming data.²¹⁵ In response thereto, large corporate companies in Australia, such as Downer, a construction company, and Close the Loop, RED Group and Plastic Police, being resource recovery and recycling companies, partnered with the Sutherland Shire Council to build the first road situated in New South Wales which is manufactured out of glass and plastic materials diverted from landfill.²¹⁶ The road is made up of glass bottles, plastic bags, used printer cartridges and an additional 60 tonnes of asphalt, specifically Reconophalt, which is a

²¹⁰ Australian Government: Department of Environment and Energy *National Waste Policy Action Plan 2019* 1.

²¹¹ Australian Government: Department of Environment and Energy *National Waste Policy Action Plan 2019* 1.

²¹² See para 2.3.1.

²¹³ Australian Government: Department of Environment and Energy *National Waste Policy*.

²¹⁴ National Geographic 2019 <https://www.nationalgeographic.com.au/australia/protecting-paradise.aspx>.

²¹⁵ Such regarding the iconic Great Barrier Reef. The documentary reveals that one ton of plastic debris can be found for every kilometre of coastline in far North Queensland. Hoegh-Guldberg highlighted that more than 90 per cent of Australia's shellfish reefs have disappeared. Approximately 2 million pieces of debris were picked up during 2016 and 2017. Three-quarters thereof were made from plastics.

²¹⁶ Niesche 2018 *The Sydney Morning Herald* <https://www.smh.com.au/national/nsw/changing-the-game-on-plastic-20180604-p4zjbh.html>.

form of asphalt.²¹⁷ For every 1 kilometre of a two lane road paved with Reconophalt, same contains approximately 530 000 plastic bags and other packaging equivalents, including toners from \pm 12 500 used printer cartridges and \pm 168 000 glass bottles and similar materials.²¹⁸ Not only did Australia construct the first road built out of waste but also developed the first micro factory that will convert all recycled containers and materials all sorts of building products.²¹⁹

Replas is a company in Australia that developed technology to reprocess plastic waste into outdoor products such as decks, park benches, fences, bollards and garden furniture.²²⁰ Unites States studies have shown that in the last six decades 8.3 billion metric tonnes of plastic had been produced. 6.3 Billion tonnes became plastic waste which ended up in landfills or the ocean.²²¹ Only 9 per cent thereof has been recycled over the years;²²² and it is therefore clear that another approach, other than recycling, is needed. Plastic waste used for construction purposes is not only economically viable and environmentally friendly but also lessens the pressure on waste management collection facilities.

3.4.2 Clean-Up technology

The Seabin²²³ is a container that looks like a barrel using a pump to suck the water from the surface, collecting trash, oil, fuel and detergents.²²⁴ The water is pushed back into the ocean after being separate from the debris and harmful fluids, leaving same

²¹⁷ A new innovative product developed by Downer's asphalt plant site in Teralba, Lake Macquarie named Reconophalt, a type of asphalt. The product consists of soft plastics, glass bottles, and toner cartridges. The product has been developed specifically for construction of roads; Waste Management Review 2019 <https://wastemanagementreview.com.au/tag/reconophalt>.

²¹⁸ Waste Management Review 2019 <https://wastemanagementreview.com.au/tag/reconophalt>.

²¹⁹ Snell 2018 *Newsroom* <https://newsroom.unsw.edu.au/news/science-tech/unsw-offers-immediate-solution-stockpiles-recyclable-waste>.

²²⁰ Niesche 2018 *The Sydney Morning Herald* <https://www.smh.com.au/national/nsw/changing-the-game-on-plastic-20180604-p4zjbh.html>.

²²¹ Niesche 2018 *The Sydney Morning Herald* <https://www.smh.com.au/national/nsw/changing-the-game-on-plastic-20180604-p4zjbh.html>.

²²² Niesche 2018 *The Sydney Morning Herald* <https://www.smh.com.au/national/nsw/changing-the-game-on-plastic-20180604-p4zjbh.html>.

²²³ Created by devoted surfers, Andrew Turton and Pete Ceglinski; Seabin Project 2019 <https://seabinproject.com/state-funded-seabin-trial-sydney-harbour/>.

²²⁴ Niesche 2018 *The Sydney Morning Herald* <https://www.smh.com.au/national/nsw/changing-the-game-on-plastic-20180604-p4zjbh.html>.

trapped in the Seabin-bag. It can collect an estimated amount of 1.5 kilograms of rubbish per day or half a tonne a year including micro plastics up to two millimetres small.²²⁵

Another success story introduced by the South Australian Government was the Container Deposit Scheme in 1977, a litter control measure supported further by recovery and recycling of single-use beverage containers.²²⁶ A small deposit is paid by the consumer after purchasing a beverage, such as those distributed in glass and plastic bottles or aluminium cans. The deposit will then be refunded to the consumer upon him/her returning the empty container to the depot, for purposes of recycling.²²⁷ This manner of waste collection, motivated by the National Waste Policy, involves consumers to dispose of their litter in a manner that does not merely benefit them but also the environment and the economy.²²⁸

The Australian Marine Debris Initiative (AMD) is a network of volunteers consisting of various actors such as the community, NGO's, local citizen scientists and agencies focused on the removal of marine debris from our fresh water and saltwater resources together with preventing any further pollution of marine litter.²²⁹ The network uploads all data from rubbish collected during clean-up events in order to monitor success and in order to identify marine debris items, their potential source and reason for ending up in the environment so as to address relevant stakeholders needed to assist in reducing the litter at source.²³⁰ The public is further educated by AMD partners and made aware of marine litter and debris issues and its impact on the environment.²³¹

²²⁵ Niesche 2018 *The Sydney Morning Herald* <https://www.smh.com.au/national/nsw/changing-the-game-on-plastic-20180604-p4zjbh.html>.

²²⁶ Environment Protection Authority *Single use plastics and the container deposit scheme* 17.

²²⁷ Environment Protection Authority *Single use plastics and the container deposit scheme* 17-18.

²²⁸ Environment Protection Authority *Single use plastics and the container deposit scheme* 17.

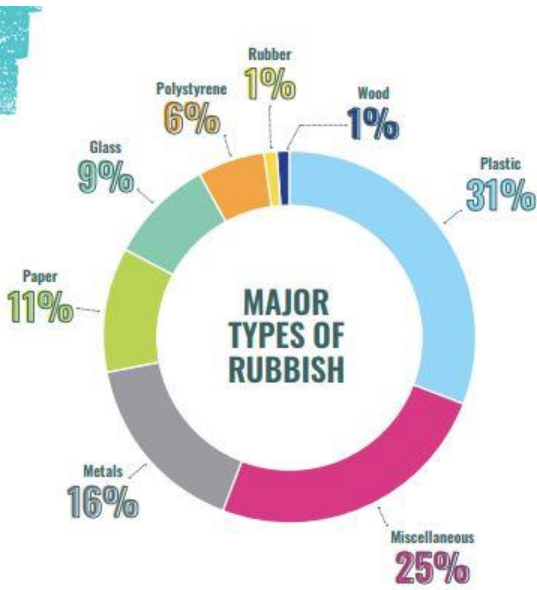
²²⁹ Sustainable Development Partnership Platform 2020
<https://sustainabledevelopment.un.org/partnership/?p=23310>.

²³⁰ Sustainable Development Partnership Platform 2020
<https://sustainabledevelopment.un.org/partnership/?p=23310>.

²³¹ Clean Up Australia 2019 <https://www.cleanup.org.au/rubbish-report>.

The Australian Government initiated the Pacific Ocean Litter Project providing an amount of \$16 million to reduce marine litter.²³² The project’s focus is aimed at reducing and managing the disposal of single-use litter such as take-away polystyrene food containers, plastic bags, plastic bottles and plastic straws. The Government in addition allocated funds in their 2018-2019 budget for rubbish removal in the Great Barrier Reef.²³³ Certain territory states in Australia already banned single-use plastic bags.²³⁴ The same states have also adopted container deposit schemes by giving citizens money back when they return their containers and bottles for recycling. All of these action plans have already delivered successful clean ups of marine litter and pollution on beaches and coastlines. The table²³⁵ below illustrates successful clean up initiatives during 2019 and it is pertinent to note that 18 per cent of all rubbish and litter were recovered from beaches and coastlines and 31 per cent thereof contained: plastic debris.²³⁶

Site Type	Number of sites	Number of items found	% of total waste	Average no. of items per site
Rivers/Creeks	189	74,314	17%	393
Parks	209	96,454	22%	462
Beach/Coastal	153	82,069	18%	536
Roadway	154	63,396	14%	412
Bushland	127	51,014	11%	402
School Grounds	83	28,850	6%	348
Outdoor Transport	6	3,610	1%	602
Shops/malls	16	11,790	3%	737
Dive Site	1	43	0%	43
Other	64	33,711	8%	527
Totals	1,002	445,251	100%	4,462



²³² Australian Government: Department of Environment and Energy 2020 <https://www.environment.gov.au/marine/marine-pollution/marine-debris>.

²³³ Australian Government: Department of Environment and Energy 2020 <https://www.environment.gov.au/marine/marine-pollution/marine-debris>.

²³⁴ Australian Capital Territory; Northern Territory; Queensland; South Australia; Tasmania; Victoria and Western Australia.

²³⁵ Clean Up Australia 2019 <https://www.cleanup.org.au/rubbish-report>.

²³⁶ Clean Up Australia 2019 <https://www.cleanup.org.au/rubbish-report>.

The South Australian Government announced during July 2019 that it was in process of drafting legislation to ban all single use plastic items.²³⁷ The legislation is set to be served to Parliament in 2020. Environmental Minister David Speirs indicated that the proposed ban will start with plastic straws, cutlery and coffee stirrers with eventually extending it to take-away polystyrene holders and cups.²³⁸ The Government of South Australia and Green Industries published a summary paper for public consultation and comment on the 11th of January 2019 regarding single-use plastic and the plastic container deposit scheme.²³⁹ The paper merely provides citizens with a brief background to plastic waste and the lack of management thereof. Questions are proposed as well as possible solutions and amendments that could be made to current waste legislation. Australian Environment Ministers have agreed on a new National Waste Policy to reduce waste at production level and thereafter improve recycling thereof. The new waste policy will not only benefit the environment and its surroundings but will also contribute to the economy by creating approximately 4 800 jobs for the community as the recycling and waste industry has an annual turnover of about \$1 billion (Australian dollars).²⁴⁰

3.5 Concluding remarks

Australia, by recognising the importance of its marine resources during the early 1960's, sought the need to develop an ocean policy framework for its protection. The ocean policy sets out regional management plans for each state in respect of its responsibilities towards their jurisdictional coastlines. Subsequently, policy-makers developed additional legislation and strategies dealing with respective issues related to ocean, such as waste dumping and waste pollution. It is important to point out that the notion of ocean governance and waste management might seem like two different components of the law. However, as from the discussion above, it is clear that an improper waste management infrastructure, and especially that of plastic waste, will

²³⁷ Keane 2019 *ABC News* <https://www.abc.net.au/news/2019-07-06/south-australia-plan-to-ban-single-use-plastic-items/11284916>.

²³⁸ Keane 2019 *ABC News* <https://www.abc.net.au/news/2019-07-06/south-australia-plan-to-ban-single-use-plastic-items/11284916>.

²³⁹ Environment Protection Authority *Single use plastics and the container deposit scheme* 11.

²⁴⁰ Environment Protection Authority *Single use plastics and the container deposit scheme* 11.

result in either illegal ocean dumping or beach litter as a result of such plastics making its way into the ocean through the means of other water resources.²⁴¹

Australia's Threat Abatement Plan and National Waste Policy is proposed as an excellent model on implementing two legal systems to address one major problem: plastic waste pollution in the ocean. The Threat Abatement Plan enacted through sections 183 and 270 of the EPBCA is aimed at addressing the key concerns and threats identified in this act that marine life and resources face. This plan is aimed directly at investigating marine resources and ecosystems and the impacts of plastic waste and micro plastics. It further aims to conduct research on minimising plastic waste and litter from entering the ocean by identifying its source and origin. The Plan provides an outline and basic understanding of the problem, its origin and impact while the National Waste Policy is set to implement strategies and action plans to address plastic waste at its source. Firstly, by implementing a national ban on single-use plastic packaging. Secondly, by working in collaboration with production companies to implement their own waste recovery and container deposit schemes, as well as redesigning their products to be environmentally safe. The policy promotes awareness and attracts communities to participate in clean-up actions and waste collection – thereby creating jobs for the unemployed which additionally contributes to the national economy. Waste material recovered have already and will continue to be used in construction of buildings and outbuildings, which lessens the pressure of waste disposal and recycling.

²⁴¹ Such as rivers or lagoons.

Chapter 4 - The marine plastic pollution regulatory framework of South Africa

4.1 Introduction

South Africa's coastline spans across 3000km. The country's ocean space is resource rich and is a pristine environment for the tourism industry and represents as a significant asset for current and future South African generations.²⁴²

South Africa has, over the years, increased the use of its marine resources for economic development.²⁴³ However, there remains significant potential for unlocking further economic development opportunities provided that poor waste management infrastructures are put on review due to the fact that following economic development, there has been an increase in ecosystem degradation and pollution along South Africa's coastlines.²⁴⁴ Despite South Africa's overwhelmingly dependence on an economic maritime infrastructure, it has been slow to strategically prioritise good ocean governance at its coastline in respect of plastic pollution.²⁴⁵ For example, the dumping or flowing of effluent into the ocean deriving from estuaries or runoff storm water is nothing strange. Sewage pollution can vary from preliminary treated sewage, effluent discharges or untreated sewage from informal settlements.²⁴⁶ As such, storm water runoff from urban areas remain difficult to control as it often contains heavy metals, oil residue and most importantly, plastic litter and plastic debris.²⁴⁷

Emerging economic development, urbanisation and population growth are all common trends in a society of a developing country. Thus, resource consumption and waste generation coherently intensify. In 2017, according to the DEA,²⁴⁸ South Africa

²⁴² Coastal tourism in South Africa has generated approximately R 13.5 billion towards the economy on an annual basis - Plastics SA 2011 *International Coastal Cleanup 2011: South Africa*.

²⁴³ Department of Environmental Affairs *The National Environmental Management of the Oceans Policy 1*; GN 426 in GG 37692 of 29 May 2014.

²⁴⁴ Department of Environmental Affairs *The National Environmental Management of the Oceans Policy 1*; GN 426 in GG 37692 of 29 May 2014.

²⁴⁵ Walker *Securing a Sustainable Oceans Economy: South Africa's approach* 3-4.

²⁴⁶ DEA 2018 *Chapter 9 Oceans and Coasts* 165-166.

²⁴⁷ There are more than 100 storm water outlets from immediate urban areas in Cape Town and eThekweni, Durban.

²⁴⁸ DEA 2018 *South Africa state of waste: A report on the state of the environment*.

produced 121 million tons of waste compared to the year 2011 which showed a total waste generation of 108 million tons.²⁴⁹ More than 60 per cent thereof are regarded as general waste²⁵⁰ and 95 per cent as hazardous waste²⁵¹ which eventually end up in landfill sites. Furthermore, 95 per cent of generated waste is landfilled and 87 per cent of municipalities do not have the infrastructure or capacity to manage and pursue mitigation initiatives and strategies effectively.²⁵² Vital concerns that should be addressed are amongst others, illegal dumping, poor collections services, unlicensed sustainable waste management activities, poor waste data management and non-enforcement of existing waste regulations.²⁵³

The purpose of this chapter is to examine South Africa's ocean legislation and governance in respect of plastic waste pollution around its coastlines. To this effect, South African ocean legislation will be discussed together with fiscal initiatives currently at work to address the plastic pollution issue.

4.2 South Africa's ocean waste regulatory framework

South African governance and legislative objectives are implemented through the three governmental spheres; namely national, provincial and local by means of distributing management roles and responsibilities. The national government is responsible for the implementation of overarching laws and policies.²⁵⁴ Within each of South Africa's nine provinces, local government such as municipalities are responsible for implementing management plans and bylaws to give effect to national legislation – especially in

²⁴⁹ DEA 2018 *South Africa state of waste: A report on the state of the environment*.

²⁵⁰ Waste such as plastic, glass, commercial and industrial waste, organic, metals, tyres, paper, construction and demolition and municipal waste. It is believed that general waste cannot pose health or environmental risks if properly managed and classified into separate categories.

²⁵¹ Which include inorganic oil, sewage, mineral waste, batteries, gaseous waste, bottom ash, slag, brine, asbestos enhanced waste and mercury enhanced waste. Therefore, any waste that contains organic or inorganic elements or compounds, that may, owing to its physical, chemical or toxicological characteristics, have a detrimental impact on the health of the environment and its people.

²⁵² Nyika "Waste Management in South Africa" 328; Mannie and Bowers "Challenges in determining the correct waste disposal solutions for local municipalities – a South African Overview" 427.

²⁵³ Nyika "Waste Management in South Africa" 328.

²⁵⁴ Mannie and Bowers "Challenges in determining the correct waste disposal solutions for local municipalities – a South African Overview" 428.

respect of coastal management and environmental conservation of the oceans.²⁵⁵ In order to understand the implementation hereof, it is necessary to have a general background of the country's regulatory measures.

4.2.1 *The Constitution of the Republic of South Africa, 1996*

The environmental right and the notion of co-operative governance in Chapter 3 of the supreme *Constitution of the Republic of South Africa, 1996*, (the Constitution) underpin the protection of South Africa's coastal environment.²⁵⁶ In order to ensure co-responsibility for coastal management and pollution prevention, it is important for the government to establish a joint partnership between itself, the private sector and civil society while empowering stakeholders to participate.²⁵⁷ The Constitution urges government spheres to preserve unity between each other in order to secure the well-being of the Republic of South Africa.²⁵⁸ Government, as a national sphere, must when enacting legislation, establish structures and institutions in order to encourage intergovernmental legislation.²⁵⁹ Municipalities, especially in respect of coastal provinces, have a constitutional obligation to protect the environment, that is, the coast and ocean through the implementation of regulations and bylaws to this effect in providing proper waste management services and facilities.²⁶⁰ Article 156 of the Constitution sets out the powers and functions of municipalities:

- (1) A municipality has executive authority in respect of, and has the right to administer—
 - (a) the local government matters listed in Part B of Schedule 4 and Part B of Schedule 5; and
 - (b) any other matter assigned to it by national or provincial legislation.
- (2) A municipality may make and administer by-laws for the effective administration of the matters which it has the right to administer.
- (3) Subject to section 151 (4), a by-law that conflicts with national or provincial legislation is invalid. If there is a conflict between a bylaw and national or provincial legislation that is inoperative because of a conflict referred to in section 149, the by-law must be regarded as valid for as long as that legislation is inoperative.

²⁵⁵ Nyika "Waste Management in South Africa" 328.

²⁵⁶ Section 41(1) of the Constitution.

²⁵⁷ Dube *The Constitutional Case for Cooperative Government* 1-3; Verdoorn *2020 LLMO811: Assignment 1* 19.

²⁵⁸ Section 41 of the Constitution; Verdoorn *2020 LLMO811: Assignment 1* 19.

²⁵⁹ Verdoorn *2020 LLMO811: Assignment 1* 19.

²⁶⁰ Article 23 of the Waste Act.

As such, the legislator drafted NEMA in such a manner so as to regulate and implement cooperative governance between different governmental spheres in relation to the environment, directing that intergovernmental co-ordination, legislation and policies to be enacted in a coherent and harmonious manner.²⁶¹

4.2.2 *The National Environmental Management Act 107 of 1998*

NEMA was promulgated in 1998 with its main purpose of serving as an umbrella instrument directing its principles and objectives at co-operative governance by introducing co-ordinating mechanisms for the effective management of the environment of South Africa. The NEMA principles serve as a general framework for environmental management²⁶² and more importantly, a guide to environmental decision making²⁶³ in order to give effect to the objectives as set out in section 24 of the Constitution.²⁶⁴ Section 24 of NEMA grants

Everyone a right to, *inter alia*, have the environment protected for the benefit of present and future generations through reasonable legislative and other measures, by preventing pollution and ecological degradation, promoting conservation, and finally, securing ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.²⁶⁵

The NEMA reinforces this approach by prescribing that the environmental principles should be enforced by all organs of state as a reference or guideline when exercising any function or making any decision or statutory provision concerning the protection of the environment in terms of NEMA or involving any action that might have an impact whatsoever the nature thereof, on the environment.²⁶⁶

According to section 2(4)(a)(iv) of the NEMA waste should at all costs be avoided, but if it cannot be all together avoided, it should be minimised, re-used or recycled in a responsible manner that is not harmful to the environment. The principle cannot be clearer so as to demand that plastic waste needs to be avoided as far as possible

²⁶¹ Section 2(4)(l) of NEMA; Verdoorn 2020 LLMO811: Assignment 1 19.

²⁶² Section 2(1)(b)

²⁶³ Section 2(1)(c).

²⁶⁴ 108 of 1996.

²⁶⁵ Blackmore 2015 SAJELP 93-95.

²⁶⁶ Section 2(1)(c).

therefore moving towards a total ban of single-use plastics, packaging and plastic carrier bags. However, if the production and manufacturing thereof cannot be avoided all together, then mitigation measures have to be implemented in order to reduce, re-use and recycle. Plastic waste that cannot be re-used or recycled, needs to be disposed of in such a manner that it does not harm the environment. The dumping of non-recyclable plastic waste in the ocean or any other source of water should not even be an option.

4.2.3 The National Environmental Management Integrated Coastal Management Act 24 of 2008

Historically, South Africa did not recognise the importance of its coastal environment as a cornerstone for economic development and as such, the government sought the need to develop the National Environmental Management: Integrated Coastal Management Act 24 of 2008 (hereinafter NEM:ICMA) to identify opportunities provided by the South African coastal zone and to regulate and eliminate conflicting and harmful activities on the oceanic environment and its resources.²⁶⁷ The NEM:ICMA, as regulated under NEMA,²⁶⁸ aims to enforce South Africa's obligations under the London Convention and London Protocol in respect of preventing marine pollution as well as limiting or restricting the dumping of waste and other matter at sea.²⁶⁹

Various aspects in terms of the NEM:ICMA have taken priority on the agenda of coastal provinces and its local authorities. These include coastal management programmes regulating the prohibition of certain developments near coastal zones (also referred to as setback lines or setback areas) and coastal access. In terms of section 69 of the NEM:ICMA one would require the authorisation for a permit to discharge waste or sewage into coastal waters.²⁷⁰ Section 70 prohibits the disposal of waste by burning such at sea while section 71 sets out requirements and guidelines pertaining to dumping permits which shall only be applicable in exceptional circumstances and in

²⁶⁷ Department of Environmental Affairs *South Africa's National Coastal Management Programme*.

²⁶⁸ Section 5 of NEM:ICMA.

²⁶⁹ Chapter 8 of NEM:ICMA.

²⁷⁰ Section 69 of the NEM:ICMA; Celliers et al. *A User-friendly Guide to South Africa's Integrated Coastal Management Act* 58.

respect of only certain waste materials. The Minister may also in exceptional or emergency situations dispense with the prescribed procedure for obtaining dumping permits as provided for in section 72 of the NEM:ICMA. These exceptional circumstances include cargo to be dumped overboard by a vessel in distress due to a mechanical failure. Section 73 further demands that the Minister develop a National Action List to screen waste and other matter to be dumped at sea, in order to assess the potential health impact on human and marine life.²⁷¹

The NEM:ICMA further makes provision for offences and penalties as a result of the non-compliance of certain conditions in terms of a permit or authorisation for dumping at sea however; in terms of plastic waste pollution it seems as if enforcement of penalties upon individuals who dump their plastic waste on beaches and in the ocean is silent. There is definitely room for improvement in that the NEM:ICMA needs to make provision specifically for offences in terms of general dumping of plastic waste by individuals, and these offences would need to be implemented and penalties enforced on a local level by municipalities.

4.2.4 The National Water Act 36 of 1998

The purpose of the NWA²⁷² is to ensure that, in managing and controlling the South African nation's water resources, several factors have to be taken into consideration.²⁷³

These include among others:

Meeting basic human needs of present and future generations; promoting equitable access to water; redressing the result of past racial and gender discrimination; promoting the efficient; sustainable and beneficial use of water in the public interest; facilitating social and economic development; providing for growing demands for water use; protecting aquatic and associated ecosystems and their biological diversity; reducing and preventing pollution and degradation of water resources; meeting international obligations; promoting dam safety and managing floods and droughts.²⁷⁴

²⁷¹ Section 73 of the NEM:ICMA.

²⁷² 36 of 1998.

²⁷³ Section 2 of the NWA.

²⁷⁴ Section 2(a)(k) of the NWA.

Local authorities are urged to, when issuing general authorisations and water licences, take into account existing permitted water uses, restoring past discrimination practices in respect of access to water, socio-economic impacts, the effect of water usage on other users and the environment as well as the quality of the water resource in question.²⁷⁵

The NWA is of relevance for this study in as much as it directs the use and conservation of water resources such as rivers and estuaries that drift into the ocean. As mentioned earlier, storm water and estuaries carry urban sewage and dredged materials into the marine environment that mostly consist of plastic debris. It is therefore important that all water resources are monitored in respect of plastic litter and debris that eventually make its way into the marine environment.

4.2.5 The National Environmental Management: Waste Act 59 of 2008

As provided for in the long title, the main purpose of NEMWA reads as follows:

To reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for the licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement; and to provide for matters connected therewith.

Waste management is undeniably one of the many concerns related to sustainable development and may also be considered as one of the most critical elements to achieve sustainable living, South Africa's regulatory framework in respect of waste management has always been somewhat disjointed and still is today, to some extent.²⁷⁶ South Africa being a developing country, is on a growth path in terms of economic and population growth, and as such, its citizens have become more

²⁷⁵ Section 27(1)(a)(k) of the NWA.

²⁷⁶ Department of Environmental Affairs *A user friendly guide to the National Environmental Management: Waste Act 2008* 6.

prosperous, meaning that growth in waste production, challenges an already ineffective waste management structure.

Municipalities and / or local government in South Africa are responsible for the delivery of effective and efficient waste management services that include the removal, storage or disposal of waste so as to guarantee an environment safe for one's health and well-being.²⁷⁷ Municipalities are responsible for complying with national and provincial waste management norms and standards, but are permitted to set forth their own standards for separation and storage of waste. Local community members and citizens are obliged to adhere to such standards or better known as by-laws.²⁷⁸ By-laws are developed during a consultative process outlined in Chapter 4 of the *Municipal Systems Act* 32 of 2000 by presenting these standards through a public participation process, providing an opportunity for all concerned parties to contribute. The Minister of Environmental Affairs further retain the option to implement waste classification, "extended producer responsibility" and the regionalisation of waste services.²⁷⁹ The concept of "extended producer responsibility," places an obligation on producers and manufacturers of affected products, (such as cans, plastic goods, glass bottles and batteries etc. that subsequently after usage become waste), to put certain measures in place for the collection and management of their own waste post-consumer stage.²⁸⁰

4.2.6 *The National Waste Management Strategy 2011*²⁸¹

The South African regulatory framework has two legal definitions for waste. Firstly, the NEMWA describes waste as "...any superfluous, discarded, abandoned, rejected or unwanted substance."²⁸² This definition depicts waste as useless and lacks to convey the importance of its pollution potential and as such, the awareness of re-use and

²⁷⁷ Sections 9(1) and 23 of NEMWA; Section 24 of the Constitution.

²⁷⁸ Department of Environmental Affairs *A user friendly guide to the National Environmental Management: Waste Act 2008* 18-19.

²⁷⁹ Article 18 of NEMWA.

²⁸⁰ Department of Environmental Affairs *A user friendly guide to the National Environmental Management: Waste Act 2008* 20.

²⁸¹ Department of Environmental Affairs *The National Waste Management Strategy 2011*.

²⁸² NEMWA definition of "waste".

recycling of waste is discouraged by the broad nature of this definition.²⁸³ Secondly, the NWA describes waste as:

Any solid substance that is transported, dissolved or suspended in water such as sediment, which is deposited or spilled into water or onto land in such a manner that the volume and composition thereof causes pollution.²⁸⁴

The broad nature of these definitions creates too much room for interpretation and could thus be the reason for the lack of effective waste management initiatives. The National Waste Management Strategy²⁸⁵ has identified some of the major challenges currently faced by the waste sector South Africa. These challenges are amongst others, the lack of compliance and enforcement of existing waste regulations; a lack of education and awareness amongst stakeholders as well as within local communities; ineffective data collection systems, limited support infrastructures for waste reduction at local government level; operational costs for the management of waste and poorly funded systems; the lack of suitable land for waste disposal and the lack of structured incentives for the reduction, reuse and recycling of waste.²⁸⁶

In support hereof, the National Waste Management Strategy was implemented during 2011 in order to achieve the objectives set out by NEMWA. Existing waste management service, of which are in short supply, are further placed under pressure due to growing numbers in urbanization and the population.²⁸⁷ Only 61 per cent of households have access to waste collection services and such unpleasant living conditions in rural and urban informal areas, lead to a contaminated and unhealthy environment. South Africa does not have adequate waste treatment facilities and infrastructures for recycling, and therefore waste management is under-priced resulting in waste disposal currently being the more convenient option. Due to the fact that only a few waste treatment

²⁸³ Nyika "Waste Management in South Africa" 329.

²⁸⁴ NWA definition of "waste".

²⁸⁵ Department of Environmental Affairs *The National Waste Management Strategy 2011* <https://www.environment.gov.za/documents/strategicdocuments/wastemanagement>.

²⁸⁶ Department of Environmental Affairs 2018 *Chapter 13 Waste Management* 278.

²⁸⁷ Department of Environmental Affairs 2018 *Chapter 13 Waste Management* 278.

options exist, the costs of landfill sites for waste disposal remain the least expensive, and the preferred option in the South African context.²⁸⁸

The National Waste Management Strategy has identified the following eight goals:²⁸⁹

1. To promote waste minimisation by way of recovering, collecting, re-using and recycling of waste;
2. To ensure that the delivery of waste services is efficient and effective;
3. To engage with the waste sector, thereby maximizing its contribution to the green economy;
4. To ensure that people and the population in general is sensitised regarding the impact of waste on their health, well-being and the environment;
5. To achieve, through engagement with all stakeholders, integrated waste management planning;
6. To ensure that there is sound budgeting and financial management for waste services;
7. To provide and implement measures to remediate contaminated land; and
8. To establish and ensure that there is effective compliance with, and enforcement of NEMWA.

There is no doubt that South Africa is aware of, and intends to tackle the plastic pollution problem however; from the above, the generation of single-use plastic waste will most likely increase with an anticipated growth in population and urban expansion. In 2017 the DEA conducted a survey confirming that the largest component of waste generated in South Africa contains that of single-use packaging.²⁹⁰ As such, numerous

²⁸⁸ Department of Environmental Affairs 2011 *The National Waste Management Strategy 2011* <https://www.environment.gov.za/documents/strategicdocuments/wastemanagement>.

²⁸⁹ Department of Environmental Affairs 2011 *The National Waste Management Strategy 2011* <https://www.environment.gov.za/documents/strategicdocuments/wastemanagement>.

²⁹⁰ Department of Environmental Affairs 2011 *The National Waste Management Strategy 2011* <https://www.environment.gov.za/documents/strategicdocuments/wastemanagement>.

policy interventions have been implemented seeking to minimise the use and distribution of plastic such as the National Waste Management Strategy which focusses on the need to re-use, recycle and recover waste especially plastic waste.²⁹¹ Furthermore, the South African government entered into a memorandum of understanding with stakeholders and labour institutions, namely the National Economic Development and Labour Council (NEDLAC) to address the challenges associated with plastic waste and in particular plastic bags.²⁹² As such, the Minister of Finance have during the Budget Speech of 2020 increased the plastic bag levy with 25 cents. Initially, the purpose of the plastic bag levy was aimed at controlling consumer behaviour towards the use of plastic bags; however, the following chapter will discuss different reduce and re-use initiatives as well as consumer behaviour interventions and its successes.²⁹³

4.3 South African plastic waste initiatives

4.3.1 Reduce initiatives

South Africa in 2006 introduced the plastic bag levy as part of its fight against global plastic pollution. This fiscal approach implemented a levy payable if one wished to purchase a plastic carrier bag for groceries or other items bought at the stores. However, from the statistics listed above,²⁹⁴ the plastic carrier bag levy has not achieved much success as South Africa still struggles with ocean waste pollution, which is primarily plastic carrier bags and single-use plastic items. The issue goes above and beyond the simple buy and use of a carrier bag. In order to give effect to NEMA's principle regarding waste, the deliberate outlawing of the importation, manufacturing and use of carrier bags and single-use plastics must be instituted. Seven years after

²⁹¹ Department of Environmental Affairs 2018 *Chapter 13 Waste Management* 279; DEA 2019 https://www.environment.gov.za/event/deptactivity/creecyhosts_plasticcolloquium2019.

²⁹² DEA 2019 https://www.environment.gov.za/event/deptactivity/creecyhosts_plasticcolloquium2019.

²⁹³ Department of National Treasury *2020 Budget Speech* 8; Department of Environmental Affairs 2011 *The National Waste Management Strategy 2011* <https://www.environment.gov.za/documents/strategicdocuments/wastemanagement>.

²⁹⁴ Dikgang et al. 2012 *Resources, Conservation and Recycling* 62.

the plastic bag levy was initially introduced, a survey revealed that 8 billion plastic bags are still purchased every year of which 96 per cent thereof end up in landfills.²⁹⁵

The main goal behind the plastic bag levy was for consumers to reuse plastic bags, thereby creating less demand for the product. However, a survey was conducted by one of South Africa's major retailers and it revealed that the majority of consumers rather used their bought plastic bags for a number of other household purposes such as rubbish bags, and not as was intended, so as to reuse same when going shopping.²⁹⁶ As a result, most plastic bags end up in landfills and city waste dumps.

Nearly R2-billion that was raised through the levy so far has been absorbed into the national fiscus, which was not the original intention of the levy.²⁹⁷ The levy should have been ring-fenced for its intended purpose that being to develop recycling facilities and incentivise sustainable consumer behaviour.²⁹⁸ Unfortunately, data could not provide an accurate answer as to whether the plastic bag levy had a positive impact on the litter stream of South Africa.²⁹⁹ The steady increase of bags used for a R 1000 shopping by consumers have given reason to believe that the plastic bag levy which resulted in reduced consumption was merely a short term solution.³⁰⁰ Consumer behaviour is clearly more difficult to change than a simple market-based incentive.³⁰¹ An increased levy was introduced during the 2020 Budget Speech.³⁰² No mention is made of how the funds collected from the levies are being or will be used.

²⁹⁵ Dikgang et al. 2012 *Resources, Conservation and Recycling* 61.

²⁹⁶ Dikgang et al. 2012 *Resources, Conservation and Recycling* 62.

²⁹⁷ Averda 2018 <https://averda.co.za/news/south-africa-steps-measures-reduce-pollution/>.

²⁹⁸ As stated by Anton Hanekom, executive director of Plastics SA - Averda 2018 <https://averda.co.za/news/south-africa-steps-measures-reduce-pollution/>.

²⁹⁹ Dikgang et al. 2012 *Resources, Conservation and Recycling* 64.

³⁰⁰ Dikgang et al. 2012 *Resources, Conservation and Recycling* 62.

³⁰¹ Dikgang et al. 2012 *Resources, Conservation and Recycling* 64.

³⁰² South African Government 2020 <https://www.gov.za/BudgetSpeech2020>.

4.3.2 Re-use initiatives

Plastic recycling rates in South Africa currently estimate at approximately 46.3 per cent; however, as from the introductory discussion, the rise in plastic pollution along South Africa's coastline is a clear indication that as a country it has yet to date, reached the necessary balance for sustainable living nor has it been able to uphold the momentum from earlier efforts against plastic pollution.³⁰³ The prevention and eventual elimination of plastic pollution can easily be tackled through a change in consumer behaviour through education and awareness. On the other hand, the discussion on micro plastics require a different approach. Most products such as cosmetics and clothing contain micro plastics.³⁰⁴ Most consumers are unaware of this and as such, accurate product labelling providing information on the substances contained in a certain product, would provide consumers with enough information to decide whether or not to purchase a certain product or if so, the manner in which to dispose of such products.³⁰⁵

In 2019, the Water Research Commission published a report, demonstrating a substantial amount of micro to nano-sized plastic particles in tap and groundwater sources.³⁰⁶ These micro plastics / microbeads originate from industrial waste, to personal care products, to clothing items or are mostly derived from the degradation of larger plastic pieces.³⁰⁷ At present, the Department of Environmental Affairs is collaborating with cosmetic industries in an attempt to cease the use of microbeads in skincare products.³⁰⁸ In order to curb pollution in respect of these types of plastics, immediate and aggressive action is required, such as is prescribed in Principle 15 of the Rio Declaration on Environment and Development 1992. It reads as follows:

³⁰³ Plastics SA 2019 *National Plastics Recycling Survey* 2018 4.

³⁰⁴ Plastics SA 2019 *National Plastics Recycling Survey* 2018 9-12.

³⁰⁵ Plastics SA 2019 *National Plastics Recycling Survey* 2018 9-12.

³⁰⁶ The Daily Maverick 2019 <https://www.dailymaverick.co.za/article/2019-09-10-theres-more-to-the-plastic-pollution-crisis-than-just-carrier-bags/>.

³⁰⁷ The Daily Maverick 2019 <https://www.dailymaverick.co.za/article/2019-09-10-theres-more-to-the-plastic-pollution-crisis-than-just-carrier-bags/>.

³⁰⁸ Averda 2018 <https://averda.co.za/news/south-africa-steps-measures-reduce-pollution/>.

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.³⁰⁹

To date, countries such as the United States, the United Kingdom, Sweden, Finland, Iceland, Ireland, Luxemburg and Norway have invoked Principle 15 by announcing the ban on single-use plastic and micro plastics.³¹⁰ Although South Africa's has taken steps to implement plans fulfilling its commitments to global initiatives against environmental degradation and curbing plastic pollution, adopting this principle has not been one of them.³¹¹ It would seem as if the motivation behind these plans rest on the mere assumption that economic growth can be separated from environmental degradation while achieving poverty eradication and environmental sustainability.³¹²

4.4 Concluding remarks

South Africa with its growing population, increased urbanisation and changing consumption patterns face a significant challenge in terms of waste management. The challenge remains whether proper action will be taken by government and the private sector to enforce guidelines provided by international treaties and conventions by amending legislation or adopting a new integrated oceans policy that address plastic pollution and provide a solution either through fiscal bases incentives, polluter pays principles or other initiatives such as used by the Australian government.

South Africa has attempted efforts in its fight against plastic pollution but with minimal success. It seems as if current legislation is not providing enough direction to address this issue and provide a solution. Furthermore, as a developing country, South Africa does not have the financial means of a first world country to necessary upgrade its waste management systems in one go.

³⁰⁹ Rio Declaration on Environment and Development UN Doc. A/CONF. 151/26 (vol. I) 31 ILM 874 (1992) Principle 15.

³¹⁰ The Daily Maverick 2019 <https://www.dailymaverick.co.za/article/2019-09-10-theres-more-to-the-plastic-pollution-crisis-than-just-carrier-bags/>.

³¹¹ Plastics SA 2019 *National Plastics Recycling Survey* 2018 9-12.

³¹² Plastics SA 2019 *National Plastics Recycling Survey* 2018 9-12.

What remains concerning is the fact that, the most common waste streams along the coastlines of South Africa or those found in illegal dumping site or general landfill sites, are plastic waste.³¹³ More than 50 per cent of plastic waste end up in landfill sites according to the latest National State of Waste Report.³¹⁴ Current policy instruments are clearly not delivering the desired results. Compliance and enforcement are the key challenges faced by government in respect of plastic waste management.

South Africa has been getting actively involved in the global fight against environmental pollution, has ratified amongst other several global initiatives such as the UN Clean Seas Campaign, and is party to international treaties such as the London Convention and London Protocol. South Africa has also committed to the SDG14 aimed at addressing marine pollution of all sorts.³¹⁵ It is however unclear how South Africa aims to implement these international objectives through local legislative measures as current legislation are more focussed on illegal dumping by cargo and ships. There is no mention in respect of the norms and standards expected of citizens when it comes to littering and plastic pollution or the consequences and penalties that will be enforced if basic litter regulations are not adhered to.

Despite it being a developing country, the question arises whether South Africa could adopt the Australian example of single-use plastic ban and plastic waste repair in accordance with an integrated oceans policy?

³¹³ DEA 2019 https://www.environment.gov.za/event/deptactivity/creecyhosts_plasticcolloquium2019.

³¹⁴ DEA 2019 https://www.environment.gov.za/event/deptactivity/creecyhosts_plasticcolloquium2019.

³¹⁵ The Daily Maverick 2019 <https://www.dailymaverick.co.za/article/2019-09-10-theres-more-to-the-plastic-pollution-crisis-than-just-carrier-bags/>.

Chapter 5 - Conclusion and recommendations

5.1 Background

From the outset of this paper, it has been emphasised that plastic pollution is of great environmental concern. Soil and water resources are being polluted by plastic waste and the toxicity of its chemicals. Ecosystems in our oceans are becoming extinct due to entanglement, ingestion, unsightly bulk pollution, marine life malnutrition and starvation. Micro plastics are invading the food chain making its way into humanity's food and water chain, which contribute to increasing illnesses such as cancer, which in turn places financial burdens on the health care systems of countries.

On local government level, plastic is separated from other wastes and are transported for recycling however; only 10 per cent of plastic waste is usually recyclable and the rest end up in landfills or are disposed of by burning the waste, which again leads to other environmental issues such as air pollution and contributions to climate change.³¹⁶ One of the biggest concerns at present, is the disposal of polythene waste.³¹⁷ One process that has been extensively researched pertains to biodegradable materials.³¹⁸ It is a widely accepted method due to its low cost and eco-friendly nature.³¹⁹ Therefore, this method needs to be encouraged as it is both economically and ecologically viable when taking into account the alarming rate at which plastic is produced globally.

Various international legal instruments exist which are vocal on regulating, reducing and ending marine plastic pollution such as Annex V of the MARPOL Convention, the Honolulu Strategy, the Global Partnership on Marine Litter 2012 as well as the Clean Seas campaign. However, these instruments merely portray a broad framework of what needs to be done. As such, a legally binding treaty specifically focused on eliminating marine litter, would provide better guidance and support to developing countries such as South Africa, which might not necessarily comprise of the required

³¹⁶ Mohd et al. *Bioremediation Technology for Plastic Waste* 25; Sarker *Journal of Environmental Science* 603-609.

³¹⁷ Mohd et al. *Bioremediation Technology for Plastic Waste* 24.

³¹⁸ Biodegradation is a natural process of degrading materials by means of naturally occurring microbes such as bacteria, fungi and algae.

³¹⁹ Mohd et al. *Bioremediation Technology for Plastic Waste* 28.

knowledge and technology, to implement an effective system to combat plastic waste pollution at coastlines.

Despite South Africa's ratification of international instruments regulating marine pollution and ocean litter and its attempts in reducing the plastic bag by way of implementing levies, its coastlines remain polluted with plastic waste and litter.

5.2 Re-examining the research question and objectives

The question that underpinned this study is, how and to what extent the Australian regulatory framework in relation to marine plastic pollution, may improve the development and interpretation of the South African waste regulatory framework and oceanic conservation practices.

In an effort to address the research question, and to test the hypothesis, the following secondary objectives were set:

- To theoretically portray the extent of global and local ocean waste pollution and the importance of sustainable use of the ocean and its resources while protecting its ecosystems and the oceanic environment;
- To examine the development of ocean governance and the theoretical perspectives surrounding this concept by further identifying the codification of international public laws within international instruments and the implementation thereof to achieve effective ocean governance and the management of plastic waste litter and dumping in oceans by the development of international instruments as guidance;
- To deliver an overview of ocean governance and plastic waste management in Australia by providing a paradigm against which the South African regulatory framework in respect of ocean governance and plastic waste management can now be measured. Certain gaps and issues were identified in South Africa's waste regulatory and oceanic regime framework calling for improvement by implementing the Australian plastic waste management concept of banning single-use plastics as well as recovery and reprocessing of plastic waste;

- To conclude and distil from the analysis of the Australian ocean governance and waste management concept in order to formulate appropriate recommendations through the lessons learned so as to strengthen current South African ocean governance in respect of plastic waste.

5.3 Main findings

Due to poor waste management practices, plastic litter find their way to the ocean and will remain for years to come, subsequently threatening biodiversity, marine ecosystems and sea life. It poses great health and safety concerns not only to marine life but humans too. Micro plastics in fact make their way into the tissues of seafood consumed by humans and are also contained in cosmetic products that are used daily. The oceans are imperative for human survival in respect of the provision of food, energy, transportation, trade, defence and recreation. South Africa was identified as one of the world's top 20 worst polluters of plastic along its coastline.

Exploitation of marine resources brought about international soft law, binding and non-binding law instruments that are meant to guide member states on the management, control and governance of the ocean and their respective coastal zones. International instruments like the Honolulu Strategy, Resolution 3/7 of the UN Environment Assembly, Global Partnership on Marine Litter and Clean Seas Campaign respectively aim to ban single-use plastics and to identify and create awareness on the impacts of plastic waste on the marine environment. They are of particular relevance as they institute initiatives and campaigns to deal with eliminating plastic waste from out the ocean. The latter cannot by themselves be implemented without coastal states developing regional seas action plans and national and local legislation for the governance of plastic waste in the ocean. The instruments provide guidance on what should be achieved and how it can be done but, the responsibility lies with each state to enforce these principles and practices on a national, regional and local government level.

The Australian regulatory framework provided the following 1) the implementation of international law and instruments that deal with at-sea disposal and governance such as the Annex V of the MARPOL Convention as well as the Basel Convention within the EPBCA; 2) the protection of threatened ecosystems and species; and 3) the development of national waste management policies such as the Threat Abatement Plan and National Waste Management Strategy.³²⁰ It has been concluded that policies should be established in a precise, clear and concise manner with regard to what the end goal is. These objectives should encompass clean-up of existing plastic debris in the ocean and the prevention of additional litter entering the ocean, which resources are needed, and what the responsibility of each actor involved will be in order to achieve such goals. That being said, an existing department or agency should be tasked with such goals, or alternatively a new one should be created and this department should be designated to lead the development of the ocean policy plus and ensure the enforcement of such a policy.³²¹ Specific mechanisms of assessment, monitoring and reporting must be designed in order to ensure enforcement, and if not properly enforced, penalties and sentences applicable to actors or members of the public for non-compliance with the regulations, be imposed. It is important that provision is made for financial support from corporations and stakeholders, together with political willpower to develop an effective ocean policy.³²² A representation of legal norms and regulatory reforms of sectorial laws are crucial in establishing a framework for integrated management of the oceans. Public consultation, participation and awareness is key by involving the community, educating them on the issue, what the end goal is and what their role should be to in order to achieve this goal. The advantage of industry sector-based consultation also has a role in gathering specific information. Development and strengthening of scientific knowledge will contribute to successful elaboration and implementation of the ocean policy. A better understanding

³²⁰ Parliament of Australia 2016
https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Marine_plastics/Report/c04.

³²¹ Repetto *Towards and Ocean Governance Framework and National Ocean Policy for Peru* 33-35.

³²² Repetto *Towards and Ocean Governance Framework and National Ocean Policy for Peru* 33-35.

of the ocean and sense of ownership and stewardship in the community should be generated, once again emphasising public participation, education and awareness.³²³

South African legislation pertaining to waste management and governance of the ocean fail to make mention of plastic waste pollution in general and the issues related thereto. It further fails in combatting the perseverance of the issue, seeing that to date, current legislation has not been amended to include plastic waste originating from human and land-based activities and the penalties to be enforced on such persons.

5.4 An integrated ocean policy in South Africa?

Based on the successes delivered by Australia's Threat Abatement Plan and National Waste Policy, it is suggested that a new integrated national oceans policy will be the key to resolving the commons dilemma³²⁴ on marine plastic pollution. A specific legally binding framework, under which each province (coastal and inland) accept joint liability and responsibility to limit and monitor their leakage of plastic waste into the ocean would, if designed correctly, provide an indispensable tool for government in their efforts to tackle the plastic pollution problem.³²⁵ The policy would convey this shared responsibility into a sense of political urgency.³²⁶ Through measures of compliance and reporting, municipalities would be held accountable should they not contribute their fair share, and this in turn would strengthen the global and national norm, against pollution of the ocean.³²⁷ Finally, the policy would serve as a platform for ensuring joint action and pooling of resources, which in turn could make national efforts aimed

³²³ Repetto *Towards and Ocean Governance Framework and National Ocean Policy for Peru* 33-35.

³²⁴ The commons dilemma is a concept used for describing the manner in which individuals in a group act out of self-interest and thereby, eventually causing unintended harm to the remaining individuals in the group. The commons dilemma can be best described as "a situation in which the conflicting parties, by each rationally pursuing its self-interest, become caught in mutually destructive behaviour" Pope J "Commons Dilemma" 2013 *The Encyclopaedia of Cross-Cultural Psychology*. In simple terms it refers to the exploitation of resources leaving less to nothing for future generations.

³²⁵ Hugo *The Case for a Treaty on Marine Plastic Pollution* 14-17; Tessnow-von Wysocki and Le Billon 2019 *Environmental Science & Policy* 104-107.

³²⁶ Dauvergne 2018 *Global Environmental Change* 24-25.

³²⁷ Hugo *The Case for a Treaty on Marine Plastic Pollution* 14-17; Dauvergne 2018 *Global Environmental Change* 24-25.

at closing the gap between the levels of plastic production and waste collection rates, more effective.³²⁸

In order to achieve these objectives, the policy would require the following five components:³²⁹

1) The policy should envisage a clear vision such as that of a plastic free ocean, however; the policy should not only be exclusively focused on leakage rates as it will not resolve the millions of tonnes of plastic already floating around in the ocean, not to mention the plastic which at this moment continues to flow into the oceans until a zero discharge rate is achieved.³³⁰ It might be better to formulate a distinct vision focused on the amount of plastic already in the ocean, as well as avoiding any further leakage thereof. Here specific reference is made to the Ocean Pacific Litter Project and Australian Marine Debris Initiative implemented by Australia, which evidently focuses on cleaning up of current litter in the ocean and managing the further leakage thereof.

2) The level of ambition should be reasonable such as setting measurable reduction targets, which will require intense negotiations. Such targets should have time limits, be achievable but most importantly, should be ambitious enough to actually solve the problem.³³¹ As with the vision, it is important to note that if the reduction targets are aimed at reducing the rate of waste leakage, in order to achieve the elimination of discharge in the long term, it will be necessary to add a separate target for clean-up as outlined by the Australian Marine Debris Initiative.³³²

3) The Threat Abatement Plan for Australia provides a foundation on how to achieve targets such as setting about national obligations, milestones, timelines and an action plan on how to achieve the objective. It is critical to identify exactly what is required from each provincial government in relation to its leakage and pollution rates, and very

³²⁸ Hugo *The Case for a Treaty on Marine Plastic Pollution* 14-17.

³²⁹ Dauvergne 2018 *Global Environmental Change* 23; Hugo *The Case for a Treaty on Marine Plastic Pollution* 14-17.

³³⁰ Hugo *The Case for a Treaty on Marine Plastic Pollution* 14-17; Dauvergne 2018 *Global Environmental Change* 24-25.

³³¹ Tessnow-von Wysocki and Le Billon 2019 *Environmental Science & Policy* 115.

³³² Hugo *The Case for a Treaty on Marine Plastic Pollution* 14-17.

important, that the sum of regional contributions is sufficient to achieve the national objective.³³³ If a national target is a long-term goal, it would also make sense to include milestone targets. It is further advisable to identify areas where national standards or regulatory gaps in the local governance structure should be addressed and resolved.³³⁴ For example, the government can come to a national agreement that micro plastics in cosmetic products should be phased out entirely, or that all types of plastic sold should be recyclable or biodegradable and that corporations producing these products are tasked to implement their own recycling “life-cycle” schemes.³³⁵ Australia already implemented this strategy by placing a ban on microbeads which are used in the production of cosmetic products.³³⁶

4) A reviewing progress system should be established to include reporting, monitoring and evaluation. The basic purpose of a review system is to monitor each provincial government making sure they are on track with reaching the agreed reduction target, the same as what is done with emission reduction targets and keeping the global temperature rise below 2 degrees and to allow for necessary adjustments to be made in order to reach the reduction targets.³³⁷ The review system should also include regular scientific reports and data capturing on marine plastic pollution.³³⁸ This could be facilitated by establishing subsidiary bodies, such as scientific panels similar to those created specifically for international environmental issues.³³⁹ The review system would thus require regional progress report on dumping and leaking activities.³⁴⁰ A national fund can serve as financial support by providing provincial governments and municipalities with contributions to implement their own action plans and bylaws.

³³³ Hugo *The Case for a Treaty on Marine Plastic Pollution* 14-17; Tessnow-von Wysocki and Le Billon 2019 *Environmental Science & Policy* 116-117.

³³⁴ Hugo *The Case for a Treaty on Marine Plastic Pollution* 14-17.

³³⁵ McKinsey & Company and Ocean Conservancy 2015 “Stemming the Tide: Land-based strategies for a plastic - free ocean” 6.

³³⁶ Australian Government: Department of Agriculture, Water and the Environment 2020 <https://www.environment.gov.au/protection/waste-resource-recovery/plastics-and-packaging/plastic-microbeads>.

³³⁷ Hugo *The Case for a Treaty on Marine Plastic Pollution* 14-17.

³³⁸ Hugo *The Case for a Treaty on Marine Plastic Pollution* 14-17.

³³⁹ Tessnow-von Wysocki and Le Billon 2019 *Environmental Science & Policy* 125-128.

³⁴⁰ McKinsey & Company and Ocean Conservancy 2015 “Stemming the Tide: Land-based strategies for a plastic - free ocean” 6.

5) While the purpose of the review system is to analyse and report, the purpose of the last key component of the policy would be to encourage and support such as educating the public, involving them in clean up initiatives, establishing fiscal and “polluter pays” practices and creating awareness.³⁴¹ Typical incentives could refer to tax breaks for perceived “good behaviour”, and fines or clean-up notices for “bad behaviour”. Essentially, manufacturers and distributors of plastics, would be expected to develop internal policies containing strategies to recover or collect same after use, and then implement recycling and reusable measures to avoid disposal into landfills or the ocean, as much as possible.³⁴²

These strategies can be fulfilled by introducing legislation to mandate the payment of levies on all manufacturing and use of plastic. A levy payable can be used as an offset (to a maximum of 50 per cent) by facilitating and collecting plastic waste, but producers of plastic waste cannot and should not be able to totally offset their obligations.³⁴³ Companies producing and using plastic materials can off-set the cost of the levy by paying other businesses to collect and dispose of in an eco-friendly manner, the plastic before it reaches the environment (by 25 per cent) and plastic pollution already taken place (by another 50 per cent).³⁴⁴ Unfortunately, a business is driven by profit taking, and therefore the perception of risk and dependence on norms and standards are important. Creating the right incentives are key to allow the markets to innovate and develop the solutions.

It is however important to point out that a new international policy will not in itself solve the problem of marine plastic pollution. Given the disintegration of existing legal framework on marine plastic pollution, there is a political and environmental urgency for a dedicated response and movement on a global level to overcome the “commons

³⁴¹ Hugo *The Case for a Treaty on Marine Plastic Pollution* 14-17; Tessnow-von Wysocki and Le Billon 2019 *Environmental Science & Policy* 130; McKinsey & Company and Ocean Conservancy 2015 “Stemming the Tide: Land-based strategies for a plastic - free ocean” 6.

³⁴² Linton 2016 *The threat of marine plastic pollution in Australia and Australian waters* 6-8.

³⁴³ McKinsey & Company and Ocean Conservancy 2015 “Stemming the Tide: Land-based strategies for a plastic - free ocean” 6; Linton 2016 *The threat of marine plastic pollution in Australia and Australian waters* 14-15; Tessnow-von Wysocki and Le Billon 2019 *Environmental Science & Policy* 140.

³⁴⁴ Linton 2016 *The threat of marine plastic pollution in Australia and Australian waters* 15.

dilemma” of marine plastic pollution, whereas at least an integrated ocean policy would provide guidance with regards to how the problem should be tackled, and will review and hold those responsible and accountable for illegal dumping and disposing of plastic waste into the ocean.

The policy could be formulated on the United Nations Environment Assembly resolution 3/7 which ultimately sums of the aspirational goal to which South Africa should strive³⁴⁵

Stresses the importance of long-term elimination of discharge of litter and micro plastics to the oceans and of avoiding detriment to marine ecosystems and the human activities dependent on them from marine litter and micro plastics.

Concluding from the discussion above, a new suggested policy will contain some or most of the elements and characteristics of Australian action plans, policies and initiatives. The South African government is encouraged to connect with Australia by implementing its legal model as illustrated above within national legislation, not merely by promulgating another act on marine litter and pollution, but rather action plans and initiatives that will truly address the problem by getting citizens involved and implementing clean up, deposit scheme and reuse of plastic waste initiatives. South Africa might not have all the first-hand knowledge, expertise and technologies at the outset, but can observe developed countries such as Australia by learning from their mistakes and thereafter applying their accomplishments. To this end, the Australian regulatory framework in relation to marine plastic pollution improves the development and interpretation of the South African waste regulatory framework and oceanic conservation practices.

³⁴⁵ UNEP/EA.3/Res.7, para. 1.

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