GEF-6 REQUEST FOR ONE-STEP MEDIUM-SIZED PROJECT APPROVAL
TYPE OF TRUST FUND: GEF Trust Fund

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PART I: PROJECT IDENTIFICATION

Project Title:	Addressing Marine Plastics – A Systemic Approach		
Country(ies):	Global	GEF Project ID:[1]	9681
GEF Agency(ies):	UNEP	GEF Agency Project ID:	**01490**
Other Executing Partner(s):	Ellen MacArthur Foundation (EMF) Ocean Conservancy (OC), UN Environment through its Global Partnership on Marine Litter (GPML) and its Responsible Industry and Value Chain (RIVU) Unit within its Sustainable Lifestyles, Cities and Industry (SLCI) Branch.	Resubmission Date:	April 20, 2017
GEF Focal Area(s):	International Waters	Project Duration (Months)	24
Integrated Approach Pilot	IAP-Cities ☐ IAP-Commodities ☐ IAP-Food Security ☐		
Name of Parent Program:	[if applicable]	Agency Fee ($)	190,000

A. FOCAL AREA STRATEGY FRAMEWORK AND PROGRAM[2]:

Focal Area Objectives/programs	**Focal Area Outcomes**	**Trust Fund**	**(in $)**	
			GEF Project Financing	**Co-financing**
IW 3 SP 6	Prevent the Loss and Degradation of Coastal Habitat	GEFTF	2,000,000	10,932,645
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
Total project costs			2,000,000	10,932,645

[1] Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.
[2] When completing Table A, refer to the excerpts on GEF 6 Results Frameworks for GETF, LDCF and SCCF and CBIT programming directions.

B. PROJECT FRAMEWORK

Project Objective: The project aims to capitalize on a growing baseline of knowledge on marine plastics sources, pathways and environmental impacts to inform the GEF and the application of a systemic approach to global plastic issues.						
Project Components/ Programs	**Financing Type[3]**	**Project Outcomes**	**Project Outputs**	**Trust Fund**	**(in $)**	
					GEF Project Financing	**Confirmed Co-financing**
Component 1: Global alliance platform to reconsider the design, use, reuse and disposal of plastics	TA	**Outcome 1.1** Towards a more informed and robust approach to a new plastics economy through a global alliance of producers, users and disposers of plastics; including advancing innovative solutions; and strengthening public –private partnership with the national and regional policy makers	1) An operational alliance from across the entire value chain (including major plastic producing and plastic using corporations as well as governments, cities, collection, sorting and reprocessing companies) and advancing development and uptake of recommendations 2) Summaries presenting policy/public-private engagement efforts, lessons and recommendations for policy makers and other stake holders 3) Large scale innovations	GEFTF	702,500	3,624,515

[3] Financing type can be either investment or technical assistance.

			mobilised through competitive actions to promote a generation of new approaches to address plastics issues catalytically building on existing approaches 4) First set of Global Plastics Protocol /Guidelines published on the redesign of materials, formats, use and after-use systems 5) An economic and scientific evidence base to inform the GEF			
Component 2: Advanced Waste Management Solutions in Asia-Pacific	TA	**Outcome 2.1** APEC region countries (Indonesia, Philippines, Vietnam) are better positioned to secure financing and make policy commitments to address marine plastic issues and waste management	1) Landscape analyses to highlight waste management financing opportunities, barriers to implementation and relevant gender issues in key Asia Pacific economies, to inform GEF 2) Development of a documented baseline on marine plastics	GEFTF	519,161	4,041,868

			and waste management conditions at selected sites in the target region 3) A series of country and region-specific recommendations (Indonesia, COBSEA, etc.) developed to address marine plastic and waste management challenges, to inform GEF. 4) Documented recommendations on how to engage plastics makers, consumer product companies, and retailers on corporate support for waste management to reduce marine plastics. 5) Locally appropriate marine plastic and waste management solutions engaging local civil society stakeholders promoting a bottom up approach.			

			6) Peer reviewed publications identifying the most efficient volunteer monitoring protocols for measuring marine debris, development and deployment of a monitoring framework to CSOs in APEC region.			
Component 3: GEF and Partners Strategy development	TA	**Outcome 3.1** Improved understanding of priority strategic intervention points ("hotspots") related to marine plastics, through existing and new knowledge and, the integration of all project outputs **Outcome 3.2** Integrated strategic guidance provided on the reduction and sound management of marine plastics into	1) Stocktaking analysis on existing actors, initiatives, policy frameworks associated with key sources and sectors responsible for macro and micro marine plastic pollution including the identification of strategic intervention points ("hotspots") and specific knowledge gaps as well as 1) Position paper/report to GEF on findings from outputs 3.1.1, and preliminary findings from C1 and C2. 2) Report of	GEFTF	200,000	1,000,000

		GEF-7 strategy relevant to focal areas, NGI and PA	technical consultation meeting 3) Strategic guidance to the GEF on the reduction and sound management of marine plastics			
Component 4 Knowledge sharing and project coordination	TA	**Outcome 4.1** Up scaled evidence base - including lessons learned and best practices identified resulting in effective prioritization of solutions and interventions for marine debris and waste management for GEF **Outcome 4.2** Successful delivery of the	1) Dialogue for leading researchers on emerging marine plastics science to address knowledge gaps in the areas of sources, distribution, fates and impacts of plastics in the ocean 2) A communications strategy integrating novel waste management, finance and science findings that fosters awareness, encourages public adoption of key concepts, and secures high quality media coverage on solutions to ocean plastics 1) Integration of scientific knowledge and	GEFTF	378,339	2,066,262

		project objective and outcomes in components 1-3	research 2) Integration of Industry 3) Effective co-ordination of project activities, monitoring and reporting to UN Environment and GEF			
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
Subtotal					1,800,000	10,732,645
Project Management Cost (PMC)[4]				(select)	200,000	200,000
Total GEF Project Financing					2,000,000	10,932,645

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ( )

C. SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include confirmed co-financing letters for the project with this form.

Sources of Co-financing	**Name of Co-financier**	**Type of Co-financing**	**Amount ($)**
GEF Agency	UN Environment Economy Division	In-kind	700,000
GEF Agency	UN Environment Global Programme of Action (GPA)	In-kind	630,000
GEF Agency	UN Environment North America Office	In-kind	151,500
Others	Ocean Conservancy	In-kind	5,047,030
Others	Ellen MacArthur Foundation	Grants	3,624,515
Others	National Oceanic Atmospheric Administration (NOAA)	Grants	400,000
Others	Recycling and Economic Development Initiative of South Africa	Grants	150,000
GEF Agency	World Wildlife Fund (WWF)	In-kind	109,600

[4] For GEF Project Financing up to $2 million, PMC could be up to10% of the subtotal; above $2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

Others	Consumer Goods Forum (CFG)	Grants	120,000
Total Co-financing			10,932,645

D. TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in $)		
					GEF Project Financing (a)	Agency Fee a) (b)	Total (c)=a+b
UNEP	GEF TF	Global	International Waters	(select as applicable)	2,000,000	190,000	2,190,000
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
Total Grant Resources					2,000,000	190,000	2,190,000

a) Refer to the Fee Policy for GEF Partner Agencies.

E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS[5]

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	*n/a hectares*
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	*n/a hectares*
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	*n/a Number of freshwater basins*
	20% of globally over-exploited fisheries	*n/a Percent of*

[5] Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the *GEF-6 Programming Directions*, will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF, SCCF and/or CBIT.

reforms and investments contributing to sustainable use and maintenance of ecosystem services	(by volume) moved to more sustainable levels	*fisheries, by volume*
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO_{2e} mitigated (include both direct and indirect)	*n/a metric tons*
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	*n/a metric tons*
	Reduction of 1000 tons of Mercury	*n/a metric tons*
	Phase-out of 303.44 tons of ODP (HCFC)	*ODP tons*
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	*Number of Countries:*
	Functional environmental information systems are established to support decision-making in at least 10 countries	*Number of Countries:*

F. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? (Select)

(If non-grant instruments are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/CBIT Trust Fund) in Annex B.

n/a

G. PROJECT PREPARATION GRANT (PPG)[6]

Is Project Preparation Grant requested? Yes ☒ No ☐ If no, skip item G.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS*

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in $)		
					PPG (a)	Agency Fee[7] (b)	Total c = a + b
UNEP	GEF TF	Global	International Wate	(select as a	50,000	4,750	54,750
Total PPG Amount					**50,000**	**4,750**	**54,750**

PART II: PROJECT JUSTIFICATION

1. *Project Description.* Briefly describe: a) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; b) the baseline scenario or any associated baseline

[6] PPG of up to $50,000 is reimbursable to the country upon approval of the MSP.
[7] PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

projects, c) the proposed alternative scenario, GEF focal area[8] strategies, with a brief description of expected outcomes and components of the project, d) incremental/ additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF/SCCF, CBIT and co-financing; e) global environmental benefits (GEFTF), and adaptation benefits (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

a) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed

Global Environmental Problems

1. Today's linear 'take, make, dispose' economic model relies on large quantities of cheap, easily accessible materials and energy, and this is a model reaching its physical limits. Falling prey to this model, the global plastics economy is an iconic linear system providing an important part of today's economy. Plastics are the workhorse material of the modern economy because of their combination of properties and low cost. Starting in the 1950s, world production of plastics showed an average annual growth rate of 8.7%, increasing nearly nine-fold since the 1970s, compared with a 4.5 times growth in aluminum and 2.5 times in steel. However, this leads to significant degradation of natural resources - it relies on virgin petro-based materials as feedstock, suffers from significant leakage and low rates of material recovery, and results in marine plastics debris.
2. Plastic debris of different sizes has been found throughout the world's oceans, from the surface to the sea floor, and from urbanized coastlines to remote, unpopulated islands. It comes from land- and sea-based sources, and can be carried by ocean currents and even the wind. Conservative estimates indicate that there are more than 150 million tonnes of plastics in the ocean. Within 25 years, the ocean plastic load could grow to one ton of plastic for every three tons of fish. Researchers found that at least 25% of fish and shellfish sold for human consumption tested positive for the presence of plastics.
3. The impacts of marine plastic pollution range from ecological to social and economic, and cost the world an estimated US$8 billion dollars per year. The ubiquity of plastics throughout the marine and coastal environment – whether on beaches, on the ocean surface, in the water column, on the seafloor or in biota – is a symptom of our failure to reduce and properly manage the amounts of plastics that we have produced. Beyond this approach, it reflects our failure to put in place frameworks addressing the entire value chain of plastics in order to close the material loop. Indeed, marine plastics is a global, complex, social, economic and environmental problem that requires holistic solutions.
4. From a natural resources perspectives, over 90% of plastics are derived from virgin fossil feedstocks. The production of plastics has a significant carbon impact, which will become even more significant with the projected surge in consumption. All plastics represent about 6% of global oil consumption, the equivalent to the oil consumption of the global aviation sector. Since 1964, plastics production has increased twenty-fold (nine-fold since the 1970's), reaching 311 million tonnes in 2014. Plastics production is expected to double again in 20 years and almost quadruple by 2050.

The Plastic Economy's Negative Environmental Impacts on Marine Environment

[8] For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which Aichi Target(s) the project will directly contribute to achieving.

A note on terminology

Different terminology – e.g., marine debris, marine litter, marine plastics, ocean plastics – has been used to describe this problem, providing different emphasis depending on the context. There are ongoing discussions among practitioners and policy makers around the world regarding the most appropriate terminology. UNEP has referred to "marine litter" since 1995, when the Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-based Activities was created, which identified litter as one out of nine categories of marine pollution. More recently, the 2nd United Nations Environment Assembly (UNEA) adopted Resolution 1/6 on "Marine plastic litter and microplastics". For the purpose of this project we have opted to use the term "marine plastics", as short hand for the terminology most recently used in UNEA, and to continue the focus on this particular type of material, which comprises the vast majority of litter currently present in the oceans and coasts. This project looks at the full life cycle of plastics with the aim of identifying strategic intervention points to reduce plastic pollution in the marine environment.

5. Plastics enter the ocean in a variety of forms, including microbeads used in personal care and cosmetics products, pre-production pellets (i.e. nurdles), synthetic clothing fibres, and a wide range of consumer products. While some plastic washes ashore or sinks, much of it fragments into small pieces (generally less than 5 mm), which are defined as microplastics. Plastics have been found in all the regions of the ocean, from consumer products floating in the ocean's five major current-driven gyres, to fibres buried in sediments in the deep sea to microplastics embedded in sea ice in the Arctic, to a wide variety of materials on beaches around the world. Unfortunately, plastics have also been found in numerous species.

6. Plastics often contain a complex blend of chemical substances, called "additives", which give polymers different properties. Once in the aquatic environment, plastic components can adsorb and/or absorb substances, which can include pesticides, Persistent Organic Pollutants (POPs), metals, etc. Many of the additives may be released to biota ingesting the plastic particles, raising concerns about potential adverse effects on human health and the environment.

7. Plastics negatively impact ocean biota in a variety of other ways. Large items like synthetic fishing nets and packing straps can entangle and kill a wide variety of organisms, including marine mammals, sea turtles, and fishes. Both intact items (e.g. cigarette lighters, plastic bags, bottles, etc.) and plastic fragments ingested by seabirds, turtles, and fishes, result in harm. At last count, over 690 species of marine animals — including a range of fish species — are known to be negatively impacted by marine plastics. A recent article by Lönnsted et al. published in the journal Science provides strong evidence for fitness impacts on juvenile fish eating ecologically relevant concentrations of micro plastics, resulting into low life expectancy against predators, which poses a problem of fish stocks. Furthermore, plastic particles adsorb industrial and agricultural pollutants in concentrations that can be 100,000 to 1 million times greater than the pollutants found in the surrounding seawater. Evidence is growing that fish consuming these particles suffer liver toxicity and pathology. A recent report presented to the 2016 UNEA meeting highlighted the growing concerns about microplastics and the bio-accumulation of potentially toxic pollutants in the food chain.

8. Floating marine debris has also been implicated in the transport of non-native invasive species which can ''raft'' considerable distances on such debris. Over 150 multi-cellular species have been reported associated with plastic debris, the majority being hard-shelled species including bivalve molluscs, barnacles, tube worms, bryozoans, hydroids and coralline algae. In addition, there is evidence that items of plastic washed ashore are often fouled by non-native species. Some species

of Vibrio bacteria have been shown to grow preferentially on plastic particles in the ocean. Rafting on plastic debris may facilitate transport of species across boundaries of water masses that might otherwise be relatively impassable. While it is clear that plastics are a vector for the transport of non-native species, their relative contribution needs to be considered alongside other vectors, such as transport on wood and pumice, transport on the hulls of ships and in the release of ballast water.

Root Causes

9. The current trend for producing and using plastics is exponential. The amount of plastic produced and consumed, reaching marine environments is therefore expected to increase. According to Jambeck et al., 2015 at least 8 million tonnes of plastics leak into the ocean each year— which is equivalent to dumping the contents of one garbage truck into the ocean per minute. Estimates suggest that packaging represents the major share of this leakage. Current levels are predicted to double within the next decade. If no action is taken, this is expected to increase to two per minute by 2030 and four per minute by 2050.

10. The current conservative estimates indicate that there are over 150 million tonnes of plastics in the ocean today. In a business-as-usual scenario, the ocean could contain 1 tonne of plastic for every 3 tonnes of fish by 2025, and by 2050, more plastics than fish (by weight). However, there is still a comprehensive overview missing to map the sources of these plastics present in the oceans, and also what level of impact corresponded with what types of plastics.

Illustration: plastic packaging

Applications of plastics are large, and range from packaging to building and construction, transportation, medical, health and personal care, electrical and electrics, agriculture and sports and leisure. Not only is packaging the largest application of plastics with 26% of volume, its small size and low residual value also makes it especially prone to leakage. One indicative data point is that plastic packaging comprises more than 62% of all items (including non-plastics) collected in international coastal clean-up operations.
Plastic packaging provide functionalities such as low weight which reduces fuel consumption in transportation, or some barrier properties which keep food fresh longer, and possibly reduces food waste. As a result of these characteristics, plastics are increasingly replacing other packaging materials, and the percentage of plastic packaging as a share of global packaging volumes has increased from 17% to 25% between 2000 and 2015. Plastic packaging volumes are expected to continue to grow, doubling within 15 years and more than quadrupling by 2050, reaching 318 million tonnes annually, more than the entire plastics industry today.

Today, 95% of plastic packaging material value, or > USD 80billion annually, is lost to the economy after a short first use. More than 40 years after the launch of the first universal recycling symbol, only 14% of plastic packaging is collected for recycling. When additional value losses in sorting and reprocessing are factored in, only 5% of material value is retained for a subsequent use. Plastic packaging is almost exclusively single-use, especially in business-to-consumer applications.
Plastics that do get recycled are mostly recycled into lower-value applications that are not again recyclable after use. PET used in beverage bottles has a higher recycling rate than any other type of plastic, but even this success story is only a modest one: globally, close to half of PET is not collected for recycling, and only 7% is recycled bottle-to-bottle.

In addition to the 14% of plastic packaging collected for recycling, another 14% is sent to an incineration and/or energy recovery process, mostly through incineration in mixed solid waste incinerators, but also through the combustion of refuse-derived fuel in industrial processes such as cement kilns, and (on a limited scale) pyrolysis or gasification. Furthermore, an overwhelming 72% of plastic packaging is not recovered at all: 40% is landfilled, and 32% leaks out of the collection system — that is, either it is not collected at all, or it is collected but then illegally dumped or mismanaged.

11. The United States, Europe and Asia jointly account for 85% of plastics production, roughly split equally between the United States and Europe on the one hand and Asia on the other. Asia is the region where some of the symptoms of the current dysfunctional surface and for this reason Asia has already been the focus for a variety of crucial leakage mitigation efforts aimed at improving basic collection infrastructure.

12. Our current waste management model does not yet follow a life-cycle thinking approach, overseeing all stages of a product's life and at the improvements that can be made to reduce the use of resources and negative environmental impacts. Ocean plastics have been accumulating on land and in the coastal and marine environment because of the lack of systemic approach, which addresses the source of the problem. The waste management hierarchy encompasses five-steps, where prevention is the best option, followed by re-use, recycling and other forms of recovery, and with disposal such as landfill as the last resort. A systemic approach considering all lifecycle stages will support prevention and minimisation of marine plastic waste. An improved waste collection and management system cannot, by itself, prevent all environmental impacts nor the generation of waste.

13. All countries, even land-locked ones, are net-contributors to the marine plastics problem. To address the problem of those plastics that are entering the oceans, especially in developing countries, a systemic approach is therefore required. This approach should consider the whole value chain of those plastics, including upstream interventions (i.e. design, production, use ...) as well as downstream waste management. It would support the application of sustainable consumption and production principles such as eco-design, green manufacturing and packaging of products in the market, sustainable consumption patterns and lifestyles, and integrated waste management approaches.

14. By analysing the different stages of the lifecycle, root causes can be identified. Companies in Europe and the US together account for more than 90% of the top consumer goods brands and plastics manufacturers who determine design. As such, many of the opportunities around format and material redesign can be found in these countries. Therefore, efforts to mobilise actors based in Europe and the US will be effective on mobilising a New Plastics Economy on a global scale. However, the plastic value chain is global, and any design related innovation will have strong impact on production and consumption habits in developing countries; and thus their involvement is critical. From a production perspective, a sound management of the supply chain is required, especially communicating key information between plastic producers, plastics converters and companies using plastics. From the consumption side, sustainable consumption habits would include provide information and means to consumer for a sustainable purchasing choice, as well as responsible disposal behaviour.

15. From the perspective of plastic recycling and disposal, specialized collection channels and recycling infrastructures need to be established, in order to collect and process the obsolete waste plastics generated by the final users. This will prevent the plastics entering the undesirable handling and treatment channels, that will end up in the ocean eventually. Such collection schemes and recycling facilities shall be designed according to the specific types of plastics and products, which cause the most impact on the marine ecosystem. Relevant legislation and effective funding scheme are also instrumental to maintain the treatment system, and awareness raising activities are also critical to reduce marine plastics directly from the users and disposers.

16. Managing existing plastics in the ocean should also look at the management of plastic debris after being discarded in the oceans, and at involving relevant responsible actors in the recovery of plastics.

17. A holistic and systemic approach also requires introducing the appropriate infrastructure and investment, and the behavioural change throughout the value chain. It also requires closing the information gap generated between countries and regions with extensive research and development at the production level (e.g. Europe and North America), and consumption and disposal in others.

18. Currently, root causes of marine litter find their origins in the current linear approach to plastics. They are produced with no real effort to close the material loop. There root causes are, amongst others: products designed to be disposable or obsolete; current behavioral habits and absent collection and recycling infrastructure; and external costs to e.g. the environment, which are not internalized into the cost of plastics; and producers who have no incentives into treating plastics as a valuable resource to be recovered.

19. Shifting to a sustainable production and consumption of plastics that have an impact on marine areas also requires the identification of the main problematic product/polymer-specific upstream interventions to reduce the influx into the marine environment. As a whole, the priority of this project is to generate a systematic approach to reduce and soundly management of plastics, by looking at the entire value chain to identify the available opportunities to address the problem of ocean plastics. By 'value chain', UN Environment refers to: "The entire sequence of activities or parties that provide or receive value in the form of products or services (e.g. suppliers, outsource workers, contractors, investors, R&D, customers, consumers, members)." The value chain runs in parallel with the product life cycle, in order to cover all stages, from raw material extraction, to end of life, including waste management.

20. "Marine debris – trash in our oceans – is a symptom of our throw-away society and our approach to how we use our natural resources. It affects every country and every ocean, and shows us in highly visible terms the urgency of shifting towards a low carbon, resource efficient Green Economy. However, one community or one country acting in isolation will not be the answer. We need to address marine debris collectively across national boundaries and with the private sector, which has a critical role to play both in reducing the kinds of wastes that can end up in the world's oceans, and through research into new materials. It is by bringing all these players together that we can truly make a difference"

The Barriers

21. The ocean plastics problem cannot be resolved through independent initiatives, scattered and focusing on different directions. Tackling the issue will require rethinking and redesigning plastics materials, improving waste management infrastructure to holistically manage existing plastic across the value chain, and analysing the priority strategic intervention points (hotspots) using information regarding the most problematic marine plastic products and polymers at different levels, and the most problematic stages of the life cycle. The objective of this last element is to prioritize upstream interventions to reduce the occurrence of these problematic products, and ensure a systematic approach is adopted, relevant to all countries and actors.

Reconsidering the design, use, reuse and disposal of plastics

22. There are many innovation and improvement efforts that show potential, but to date these have proved to be too fragmented and uncoordinated to have impact at scale. Today's plastics economy

is also highly fragmented. The lack of standards and coordination across the value chain has allowed a proliferation of materials, formats, labelling, collection schemes, and sorting and reprocessing systems, which collectively hamper the development of effective markets. Innovation is also fragmented. The development and introduction of new packaging materials and formats across global supply and distribution chains is happening far faster than and is largely disconnected from the development and deployment of corresponding use and after-use systems and infrastructure. At the same time, hundreds – if not thousands – of small-scale local initiatives are launched each year, focusing on areas such as improving collection schemes and installing new sorting and reprocessing technologies. In addition, other issues, such as the fragmented development and adoption of labelling standards, hinder public understanding and create confusion.

Improving Waste Management Infrastructure

23. There are also significant barriers hindering the success of infrastructure development. A wide range of factors must be considered when planning to build waste management infrastructure — details ranging from the right sets of policies (i.e. support for waste-to fuel conversion, high-quality public guarantees on waste stream reliability and transparent procurement standards with waste management contractors), to the right match of technologies with local conditions (i.e. population size, waste volume and density), to the geographical (a city's proximity to the ocean or major rivers), to political considerations (how money gets appropriated for such projects and who may support or oppose them) and to the social conditions. This project would aim to catalyze action to remove the barriers (in selected countries/cities) that are inhibiting investment, build political will and develop a true investment coalition involving private sector in line with the waste hierarchy.

24. Improved waste management is part of the waste hierarchy upon which a portfolio of other strategies (e.g. expanded recycling, material redesign, reduced waste generation, etc.) can be built. These barriers are intrinsically linked and complementary, reinforcing the need to deliver concurrent and complementary solutions. Efforts such as innovation/re-design/standards will only flourish where basic waste management infrastructure is in place. Similarly, delivering collection infrastructure without systemic solutions is working at the "end of pipe" and will only curb the ocean challenges in the short term. Infrastructure solutions will also be undone by strong market growth.

The way forward: a systemic approach

25. The current approaches addressing the issue of marine plastics are rather disconnected, and they either target upstream challenges of the value chain for specific types of plastics (e.g. from design and production), or end-of-pipe solutions such as ocean clean-up. However, the upstream prevention strategies have not been fully integrated and linked with the downstream disposal and clean-up actions.

26. There is also a strong need to have integration of solutions targeting global value chain of marine plastics, as the life cycle of plastics are cross-boundary and cross-cutting from the perspectives of policy, technology, management, economics, awareness-raising and behaviour change. To developing a systemic approach, a critical input from science to analyse and map the sources, flows, pathways, and magnitude of the impacts is needed. Critical analysis is essential to assist in the identification of strategic intervention areas to be prioritized for action, through a fact-finding and a consensus building process.

27. Solutions to ocean plastics must simultaneously (i) create the enabling conditions for systemic change in the medium-to long-term towards a circular system where plastics never become waste, through cross-value chain collaboration, innovation, re-design, definition of standards and the

creation of markets; (ii) implement in the short-term the most efficient, locally appropriate integrated waste management concepts in the places that need it most, to stop the deluge of plastic waste currently in the system and entering waterways and the ocean daily. Execution of these complementary components will yield immediate impact to our ocean and communities that depend on it, while at the same time shifting the global paradigm for how plastics are manufactured, used and disposed.

28. Based on the scientific analysis and consensus building on prioritizing actions, solutions touching the key hotspots of the whole life cycle of plastics and products will generate the most cost-effective result. This requires an integration of upstream, midstream and downstream actions. The systemic approach will capturing the current generation of plastics waste entering the marines, touch on the areas of cleaning up the existing plastics present in marines and prevent the future plastic streams entering the marines. In overcoming the above-mentioned challenges and better understanding the issue of managing ocean plastics, the United Nations Environment (UNEP) in collaboration with the Ellen MacArthur Foundation and the Ocean Conservancy, and with the catalytic help of the Global Environment Facility (GEF), will work together to provide a range of concerted solutions stemming from governments, the business sector, advocacy organization, scientists and many other stakeholders. These will be based on a systemic and integrated value-chain approach, following a waste hierarchy and within the framework of the Global Partnership on Marine Litter.

b) the baseline scenario or any associated baseline projects

29. Given the widespread impacts of marine plastics, government and other stakeholders around the world are focusing increased attention to this problem and exploring options (e.g. legislative and voluntary bans, including through economic incentives) to reduce the use of plastic bottles, bags, etc. by consumers. Increasing global attention on the use of micro-beads in consumer products, and the inevitable pollution that results is also capturing governments and the wider public's attention.

30. At the intergovernmental level, the UN Environment Assembly 1st and 2nd meetings (in 2015 and 2016) have been highlighting the impacts of plastic products on the (in particular) marine environment and catalysing actions through the GPA/GPML to seek solutions.

31. The partnership of this project will bring together many stakeholders and varying points of view. This project will also benefit from years of baseline information on ocean plastics issue analysed and collected by these three organizations, as well as methodology to identify areas of action.

    - UN Environment will provide the intergovernmental context to the ecosystem issues through the GPA and the GPML, Regional Seas Conventions and Action Plans and regional and global environmental reports under the guidance and authority of UNEA. UN Environment will take a full life cycle approach, and use sectoral hotspot analysis to identify the most effective areas of actions, along the value chain of plastics.
    - The Ellen McArthur Foundation will provide to this project work being undertaken in support of a recent (January 2016) report 'The New Plastics Economy – Rethinking the future of plastics' presented at the World Economic Forum in Davos.
    - Ocean Conservancy brings 30 years of practical experience, partnerships, and scientific expertise including coastal clean-up actions, engagement with the private sector, governments, scientists and other stakeholders.

32. The project also will build on specific initiatives to address marine plastics, and to engage with, other institutions such as the European Union, etc., and ensure that actors that will be impacted are part of the activities of this project. Relevant baseline actions and events are summarised below from the project partners and other organisations.

United Nations Environment

33. The following baseline is reflective of the work done by UN Environment's Ecosystem division, Economy division, and the North America Office

- In 2011, UN Environment partnered with NOAA to convene the 5th International Marine Debris Conference, which was held in Hawaii. Over 400 participants from 38 countries around the world helped shape the resulting Honolulu Strategy, which provides a global framework for reducing the impacts of marine litter from both land-based and sea-based sources. This meeting catalysed renewed international attention to the issue of marine litter.
- In 2012, the GPA, an inter-governmental mechanism hosted by UN Environment, was mandated to focus its work on three key issues, one of which is marine litter (the other two are nutrients, and wastewater. In June 2012, the UN Conference on Sustainable Development (also known as Rio+20) was held in Rio de Janeiro, Brazil. An outcome document of Rio+20, titled "The Future We Want", highlighted the problem of marine litter, in particular plastics, which provided an important signal to the world of the urgent need to address this issue. Also at Rio+20, UN Environment launched the Global Partnership on Marine Litter (GPML), an international coordinating forum that brings together governments, NGOs, academia and the private sector to collaborate in finding solutions to the problem of marine plastics.
- In June 2014, the first session of the United Nations Environment Assembly (UNEA-1) was held in Nairobi, Kenya, and the issue of marine plastics was brought at the forefront of the Assembly's agenda. Resolution 1/6 was adopted, requesting the undertaking of a study gathering the most up-to-date information on marine plastic debris and microplastics' key sources, best available techniques and practices to address the issue, as well as recommendations regarding the most urgent actions to be taken. It notably called for long-term solutions leaning towards the adoption of a circular economy approach, as well as immediate, short-term actions concerning the improvement of waste management.
- A follow-up resolution, UN.EA.2/11 on Marine plastic litter and microplastics was adopted at UNEA-2 (May 2016) encouraging Governments, industry and civil society to collaborate through the GPML in efforts to reduce the input, level, and impact of plastic debris and microplastics in the oceans (para op.6). It recognizes that this is an issue of global concern that needs urgent global response taking into account a product life-cycle approach (para op.1). It calls for, among other things, prioritizing important sources and impacts, as well as cost-effective measures. It encouraged the harmonization of terminology, standards and methods for monitoring, and requested an assessment of the effectiveness of measures undertaken to solve the problem of marine plastic debris. The resolution also called upon industries to progressively phase-out from primary microplastic particles in personal care products, industrial abrasives and printing products and to consider the lifecycle environmental impacts of products containing microbeads and compostable polymers (para op16).
- In September 2015, UN Member States adopted 17 Sustainable Development Goals (SDGs) aimed at guiding global development from 2016-2030. The outcome of UNEA-2 and the objectives of this MSP, are consistent with the implementation of Sustainable Development

Goal 14, which aims to conserve and sustainably use the oceans, seas and marine resources. In particular, Target 14.1 aims to prevent and reduce land-based sources of pollution, including marine debris and nutrient pollution, by 2025. Tackling the marine plastic debris issue is also relevant to other SDGs and targets.

34. In addition to its core work on marine plastics through the GPA/GPML, UN Environments Economy Division has several programs and activities that substantially support the efforts to tackle the issue from an upstream perspective and that ensures all actors of the value chain, are engaged. These include:

- The UNEP/SETAC Life Cycle Initiative: This initiative promotes the application of life cycle approaches globally, by connecting science and decision-making in policy and business. The program will support this project by looking at all the stages of the life cycle of plastics to identify opportunities to reduce the use of resources and negative environmental impacts, tackling the plastic debris problem from both upstream and downstream sides. The initiative makes specific tools available for the implementation of this project such as the hot spot analysis methodology, currently under development, and potential support for national pilot initiatives
- Supporting private sector in shifting towards sustainability through RECPNet: The Resource Efficient and Clean Production network is formed by 75 institutions spread across 64 countries acting as implementing partners on projects such as on Eco-innovation (with a value-chain approach), Responsible Production (chemical hazard management) and PRE-SMEs. The implementation of Eco-innovation by the RECPNet would contribute to this project in supporting companies in the entire plastics value-chain to embed sustainability at the core of their businesses; which can result in the redesign of products and processes that reduce or eradicate the use of plastics, producing in a safer and sustainable way and with the opportunity to work with SMEs. The Eco-innovation project has developed a methodological approach which would be relevant for intervention in plastic value chains, as well as policy guidance for the creation of an enabling policy environment. Both tools will represent the backbone of UN Environment methodological approach to operate along value chains.
- Enhancing communication to drive behavioural change through the Consumer Information Programme of the 10 Year Framework of Programmes on Sustainable Consumption and Production (10YFP). The programme is preparing a set of guiding principles for the provision of reliable sustainability information to consumers. The principles and recommendations provided in this guidance document will provide the basis for the development of consumers targeted initiatives which will be suggested in the context of this MSP.
- The International Environmental Technology Centre (IETC) of UN Environment is an institute with more than 20 years' experience on waste management. IETC's efforts in the field of waste management are projected towards 4 directions: 1) Demonstration / Pilot projects; 2) Technology support; 3) Capacity building; 4) Secretariat of the Global Partnership for Waste Management (GPWM). IETC has developed a programme on integrated solid waste management to support capacity building and technology transfer and under which a set of guidelines. On plastics, IETC has published a report "Converting waste plastics into a resource - Assessment guidelines", which summarizes the methodology for waste plastics characterization and quantification (mainly for

conversion into resource/fuel) and the assessment of current waste management system including the identification of gaps.

- IETC, in collaboration with the International Solid Waste Association (ISWA), has taken the lead on the Global Waste Management Outlook Initiative (GWMO), which aims to develop the Global Waste Management Outlook as a tool to provide an authoritative overview, analysis and recommendations for action of policy instruments and financing models for waste management. The GWMO provides the first comprehensive global overview of the state of waste management around the world in the 21st century. It is an important and timely status report and call for action to the international community.
- IETC also serves as the Secretariat of the Global Partnership on Waste Management, and it is an open-ended partnership for international agencies, governments, local/municipal authorities, businesses, academia, and NGO to collaborate on waste management. GPWM supports the development of work plans to facilitate the implementation of waste management at national and local level, and undertakes policy dialogue and other activities to exchange experience and practices. Its Information Platform is a framework which aims to promote, share and exchange information on solid waste related issue
- A report on sustainable management of marine resources currently under development by the International Resource Panel, a science-policy platform set up by UN Environment. The International Resource Panel, a science-policy platform set up by UN Environment, is distinguished by its broad coverage of topics building bridges between the scientific and policy-making communities. The currently developed report on sustainable management of marine resources would greatly complement this MSP by providing scientific information that supports the systematic solution approach to the plastic debris problem.
- A Sustainable Tourism Programme under the 10YFP, and major voluntary initiatives on tourism, including the Global Partnership for Sustainable Tourism and the Tour Operator Initiative, both established by UN Environment. Some of these initiatives have set standards that related to waste reduction in tourism value chains. With the approach set on waste reduction, the Sustainable Tourism Programme would contribute to this MSP by raising awareness of the plastic contamination of oceans through the establishment of active campaigns on plastic products that are used along the tourism value chains. The program would also support the project in reaching out to the vast tourism population across the world, providing them (consumers) with information on the importance of sustainable consumption and of the smart disposal of products containing plastics.

- UN Environment's engagement with the private sector through the Business Dialogue for Environmental Sustainability. The Business Dialogue which is organized within the context of the UNEA, identifies opportunities and generates synergies between business efforts and the UN Environment global programme of work. The past event convened hundreds of stakeholders, including representatives from manufacturing sector and waste industry as well as from cities that are key actors in the implementation of the initiatives reflected in this project.

35. Ellen McArthur Foundation (EMF)

- In January 2016, the Ellen MacArthur Foundation launched the report "The New Plastics Economy – Rethinking the future of plastics" at the World Economic Forum in Davos, laying out the drawbacks of today's plastics economy as well as the outline of a system with

fundamentally better economic and environmental outcomes: The New Plastics Economy, one where plastics never become waste; rather, they re-enter the economy as valuable technical or biological nutrients. The New Plastics Economy is underpinned by and aligns with principles of the circular economy.

- The New Plastics Economy report built upon Project 'Mainstream - Global Plastic Packaging Roadmap'; a three-year global collaboration between EMF, the World Economic Forum and McKinsey & Company.
- This formative work has resulted in the New Plastics Economy Initiative, a coordinated effort to catalyse self-sustaining and irreversible momentum towards the New Plastics Economy, providing a root cause systemic solution to the issue of ocean plastics, with a focus on the single biggest and most leakage-prone application: plastic packaging. NPEC will catalyse global cross supply chain collaboration and bring together key actors from business, philanthropy, NGO and government to invoke systemic solutions.

36. Ocean Conservancy

- In 1986, Ocean Conservancy launched the International Coastal Clean-up (Cleanup), an annual day of action through which we mobilize volunteers globally to remove trash from beaches and inland waterways. In 2015, the 30th Anniversary Cleanup catalysed over 800,000 volunteers in nearly 100 countries, with the Philippines topping the charts with 250,000 volunteers turning out to clean their shorelines. During its three-decade history, Ocean Conservancy has worked in close partnership with regional NGOs, UN Environment and its Regional Seas Programme, and other entities in more than 150 countries. Packaging constitutes eight of the top 10 items found during the ICC, and two-thirds of those are made wholly or partly of plastic. Ocean Conservancy compiles and releases the data annually — last year's report release garnered 525 million media impressions – and it is used to inform policy in the U.S. and abroad. Examples of where the Cleanup data has been influential including the US (Marine Debris Research, Prevention and Reduction Act, 2006) and globally (MARPOL on marine litter, and UN Environment's 'Marine Litter in the Wider Caribbean Region', 2009).
- The Trash Free Seas® Alliance (TFSA), founded in 2011, is a high-level forum through which industry leaders, scientists and conservationists work collectively to identify and implement solutions to the growing problem of ocean trash. Ocean plastics quickly became a signature initiative of the Alliance. A steering committee was established in 2015 that included representatives from The Coca-Cola Company, The Dow Chemical Company, American Chemistry Council (ACC), the Recycling and Economic Development Initiative of South Africa (REDISA) and the World Wildlife Fund (WWF).
- **Expanding the Knowledge-Base through the publications including:**
    - A 2015 *Science* paper that identified a majority of plastic "leakage" currently comes from a few rapidly industrializing economies concentrated in Southeast Asia. The article made clear that plastic usage is exploding in this region, and infrastructure is failing to keep pace with consumption. The paper resulted in over 500 media impressions.[9] Field research in China and the Philippines, and extensive interviews with waste management experts. This analysis resulted in the first-ever report outlining specific solutions to address waste management and stop the leakage of

[9] Jambeck, J.R., Andrady, A., Geyer, R., Narayan, R., Perryman, M. Siegler, T., Wilcox, C. and Lavender Law, K. Plastic waste inputs from land into the ocean. *Science*, **347:** 68-771. (2015)

plastic waste into the ocean. Findings were captured in a report entitled Stemming the Tide: Land-based Strategies for a Plastic Free Ocean, which was released in September of 2015. The report's launch procured over 164 million media impressions.[10]In January 2016 a study was published in the journal *Marine Policy* that provides the first comprehensive assessment of trash and plastic waste impacts on marine wildlife. This study is the culmination of two years of work that incorporates analysis from a survey of 274 international experts representing 19 fields of study. In addition, new research analysing the risk of plastic ingestion to wildlife (seabirds and sea turtles), was published in the *Proceedings of the National Academy of Sciences* and *Global Change Biology*. [11]

- **Building Regional and Country-Level Demand:** To begin building engagement and support for advancing solutions in Asia, and to instigate country and regional demand for pursuing land-based solutions to ocean plastics, Ocean Conservancy met with leaders in Indonesia, the Philippines and China, and secured support as an official project of the Asia Pacific Economic Cooperation (APEC). This entity serves as a regional economic forum for 21 Pacific Rim economies to promote sustainable growth, and recently created a specific working group. Examples include:
    - Presentations of key solution to marine debris was a focal point at the APEC Senior Officials Meeting in Cebu, Philippines, in September 2015 focussing on ocean plastic and waste management as part of an agenda on Sustainable Cities and Rapid Urbanization.
    - Presentations to government and World Bank officials and potential local NGO partners in Indonesia.
    - Designed and moderated an Ocean Plastics session at the World Economic Forum's Annual Meeting of New Champions in Dalian, China
- **Country Level:**
  Indonesia – OC has established contacts and consulted with the Ministry of Maritime Affairs, Ministry of Energy and Mineral Resources, Ministry of Environment and Forestry, Ministry of Environment and Forestry of the Republic of Indonesia /Directorate of Coastal and Marine Pollution and Degradation Control, City Cleansing Department, and the Indonesia Business Council for Sustainable Development.

  World Bank – Ocean Conservancy began materially supporting both marine debris and waste management in Indonesia in 2016. Examples include:
    - World Bank's waste management plan is called PPSP translated to the '**Urban Sanitation Development Program'** with the goal of 100% urban collection and sound waste management with implementation starting June 2017 and a budget of $1.3b. The plan aims to increase collection levels through community based programs, to implement EPR to support operating costs, to install sanitary landfills, recycling centers and waste to energy facilities and to conduct behavior change campaigns. In this process they will address policy and capability building for local governments and the community.

[10] Ocean Conservancy and McKinsey Center for Business and Environment. Stemming the Tide: Land-based strategies for aplastic-free ocean. Washington, D.C. pp. 49. (2015)
[11] Wilcox, C., Mallos, N.J., Rodriguez, A.G., Leonard, G.H. and Hardesty, B.D. Using expert elicitation to estimate the impacts of plastic pollution on marine wildlife. *Marine Policy*, 65: 107-114. (2016)

- For marine debris, the World Bank is supporting Indonesia's Ministry of Coordinating Maritime Affairs to develop Indonesia's first Marine Debris Action Plan and hold Indonesia's first annual Marine Debris Summit. They have also conducted 'Rapid Hotspots Assessments on Marine Plastics in 5 cities with a plan to do 13 more in 2017. These assessments identify the main waste leakage points, gross volume of leakage, and collection and disposal practices in each city and develop a set of recommendations for the highest impact tactics to reduce plastic waste leakage.

Indonesia Waste Platform: Start-up initiative aiming to be a hub connecting stakeholders - cross-sector and cross-border - who are involved in solutions on Indonesian waste management. The main goals of IWP are promotion and facilitation of collaboration on the forming of a common shared vision, adopting a common shared strategy and stakeholder capacity building. IWP is involved in developing recycling and up cycling, giving education on waste management, creating awareness, and contributing to scientific research.

Vietnam

OC has established contacts and has consulted with the Vietnam Environmental Administration, and anticipates coordinating with Vietnam Administration of Seas and Islands, Ministry of Natural Resources and Environment, ADB, Unilever, World Bank and CARE.

Philippines

OC has established contacts and has consulted with the Philippines City Environment Natural Resources Officer (CENRO), Environment Management Bureau and anticipates coordinating with entities such as Department of Environment and Natural Resources, and the National Solid Waste Commission and mayors of focal cities, local NGOs (Save the Philippines Seas, Mother Earth Foundation, GAIA, SWAPP); development finance (Development Bank of the Philippines, ADB, JICA) and industry members (e.g., Unilever).

Additional coordination is expected with national government agencies (e.g., Ministry of Coordination on Marine, Ministry of Environment and Forestry, Ministry of Public Works) and local cleansing agencies in focal cities; development finance institutions (e.g. ADB, JICA, AFD, KFW, World Bank); industry (e.g., Unilever, Nestle, Tetra Pak, Danone, IndoFoods) and local NGO partners (Sustainable Waste Indonesia).

- **Global Engagement:** Ocean Conservancy has engaged with world leaders at some of the world's most influential events, including at:
    - The World Business Council on Sustainable Development, held in November 2014, where CEOs of more than 200 global corporations decided to make the problem of marine plastics one of the Council's key priorities.
    - The 2015 World Economic Forum meeting in Davos, Switzerland where 1,500 top business leaders from over 140 countries and more than 300 heads of state participated.
    - The "Plastics in the marine environment: scaling up efforts to minimise waste" summit sponsored by the Global Ocean Commission and the Prince of Wales's International Sustainability Unit in spring 2015.

- The G7 experts meeting to develop a global action plan on marine debris, where we served as a member of the U.S. delegation.

- **Civil Society:** Civil society plays an important role in amplifying the call to end the ocean plastic crisis, and there are talented organizations around the world working on various approaches to reducing plastic use and plastic waste. OC partners with many such organizations and aims to incorporate a diversity of views and perspectives into our methodology. World Wildlife Fund (WWF) is an example of a global NGO that partners with us as a member of the Trash Free Seas® Alliance; like Ocean Conservancy, WWF also has a long history of partnering pragmatically with the private sector to solve problems of global concern. In addition, we are broadening our outreach to explore new partnerships with civil society organizations active in our target region. This includes the C40, a network of cities and municipal leaders around the globe working to implement climate solutions, which includes a working group on waste management, as well as CARE, the prominent global organization dedicated to ending poverty. Further, this November OC convened a meeting in Hong Kong with our International Coastal Cleanup National Coordinators from Asia Pacific to develop a more integrated solution strategy among Cleanup partners throughout the region. There was consensus that a commitment to collective action by all sectors — industry, government and civil society organizations — is needed to stop plastic from entering the ocean, and a consensus statement will be produced as an outcome of the meeting outlining the priority actions that the Network is resolved to pursue. In addition to OC's existing Asia Pacific partners, they initiated new relationships and partnerships with organizations at the meeting, including UNEP's Coordinating Body on the Seas of East Asia (COBSEA); Tangaroa Blue; and Zero Waste International. We also continue to engage with organizations in the zero-waste community that are seeking to reduce or eliminate waste altogether. Many of these groups participate in an alliance known as GAIA (Global Alliance for Incineration Alternatives), and OC has discussed at length areas for collaboration and areas where they have strategic differences.

37. Other relevant activities

- This project would build on the existing Circular Economy Package adopted by the European Commission, which includes legislative proposals on waste to stimulate Europe's transition towards a circular economy that will boost global competitiveness, promote sustainable economic growth and generate new jobs. The Circular Economy Package is formed by an EU Action Plan for the Circular Economy, which establishes concrete programmes of action, with measures covering from consumption and production to waste management and the market for secondary raw materials. The Package includes commitments on eco-design, the development of strategic approaches on plastics and chemicals; with plastics being included as one of the priority areas that faces specific challenges in the context of circular economy.
- In relation to policy and the establishment of partnerships addressing the plastics waste problem, the project would follow on efforts of the government policy on plastic from the Dutch government. The Dutch plastic policy, which includes plastics packaging, at national level to support the implementation of a circular economy or waste management projects by providing financial incentives, campaigns and learning centres, coalitions, agreements, programmes, among others. The result of bottom up initiatives implemented by the Dutch government is that more policy measures are initiated to collect and recycle more plastics. In addition to these efforts, the Plastic Value Chain Agreement was signed between 80

stakeholders among companies, knowledge centres and institutions, NGOs and governmental agencies with the objective to close the plastic material cycle and create a market for the plastic recycling. The Agreement represents an innovative form of creating change and new businesses across the whole value chain.

- GESAMP microplastics in the ocean[12]
- Marine litter in the Wider Caribbean (UN Environment, CAR-RCU)[13]
- GEF C&W Project "Integrated POPs Management Project: Dioxins and Furans, PCB and Contaminated Sites Management" (3622 -Philippines/World Bank), aimed at developing an integrated management of POPs (Dioxins, Furans and PCB) and contaminated sites.
- **Think beyond Plastic** – Mesoamerican Reef Project[14]. Think Beyond Plastic is a social profit venture that addresses plastic pollution by harnessing the forces of innovation and entrepreneurship, and the powers of the market to do good. Eliminating *ocean plastic pollution* is a strategic goal, due to the uniquely harmful properties of plastic in the marine environment, and the strategic importance of a healthy ocean for the wellbeing of our shared planet.
- The focus of **Ocean Recovery Alliance** is to bring together new ways of thinking, technologies, creativity and collaborations in order to introduce innovative projects and initiatives that will help improve the ocean environment. Two of the projects within the group were announced at the Clinton Global Initiative (CGI) in 2010, and are focused on innovative prevention programs for plastic waste reduction. This includes the Plastic Disclosure Project, and the Global Alert platform. It has done work for the World Bank's Global Partnership for Oceans in Colombia, and the GPO also supported development of the Global Alert platform.
- **NOAA Marine Debris Program** – national and international efforts to reduce marine debris. Their currents efforts are focused on prevention, removal (locally-driven), research emergency response and outreach. They also have a **Marine Debris Tracker:** mobile app between NOAA Marine Debris Program and the Southeast Atlantic Marine Debris Initiative (link is external) (SEA-MDI), run out of the University of Georgia College of Engineering – encourages local data collection. **Marine Debris Monitoring and Assessment Project** – NOAA Marine Debris Program (MDP) has implemented the Marine Debris Monitoring and Assessment Project (MDMAP), an initiative to compile a record of the amount and types of debris in the environment. Citizen science initiative engaging citizen involvement in marine debris surveys.
- **Plastic Soup –** The Plastic Soup Foundation, accredited by UN Environment in April 2016, aims to end plastic pollution in the world's seas and oceans by taking a three-prong approach to the problem: raising awareness, educating others and finding innovative solutions. Their outreach includes students as well as various community and corporate stakeholders. The organization's 'Beat the Microbead' campaign, since 2012 has been educating consumers on the threat that microbeads in personal care products pose to marine environments. This includes an app so consumers can scan item barcodes to verify if the product contains microbeads. As of 4 December, 2016 82 NGOs from 35 countries are supporting the 'Beat the Microbead' campaign and 329 brands from 59 different manufacturers promised to remove plastic microbeads from their products.

[12] http://www.gesamp.org/microplastics-in-the-ocean---a-global-assessment---wg-40-brochure
[13] http://www.marinelitternetwork.org/sites/default/files/marine_litter_in_the_wider_caribbean_region.pdf
[14] http://www.thinkbeyondplastic.com/

- **5 Gyres –** The mission of 5 Gyres is to use science, art, education, and adventure to influence meaningful action on plastic pollution. Their projects include missions to gather data on plastic pollution. Since 2014, supported by a group of international scientists, 5 Gyres published the first Global Estimate of Marine Plastic Pollution. Since that time, additional data collected by Expeditions and Trawlshare projects that update current data estimates. The most recent of these expeditions (17th) in August 2016, involved 5 Gyres' Director of Research Dr. Marcus Eriksen and Environmental Programs Director Carolynn Box and a group of 22 citizen scientists gathering data in the Canadian arctic.
- **Global Alliance for Incinerator Alternatives (GAIA) –** GAIA is made up of more than 800 members (representing grassroots groups, NGO's, and individuals). The alliance supports efforts at the municipal level to reduce the flow of plastics into oceans and waterways. GAIA is a founding member of the #breakfreefromplastic initiative which includes hundreds of organizations worldwide committed to a world free of plastic pollution. GAIA works to address plastic pollution by: "Working with cities on zero waste systems that prevent plastics from entering dumps, incinerators, or oceans; Securing policies that reduce the production and consumption of single-use, disposable plastics; and Building a powerful movement to demand corporate redesign of products and delivery systems and to stop plastic at its source"
- **Break Free From Plastic -** An international group of NGO's including support from organizations including: Algalita, Center for Biological Diversity, Clean Production Action, Clean Water Action, Ecology Center, 5 Gyres, Gaia, Greenpeace, Oceana, Plastic Pollution Coalition, The Story of Stuff Project, Surfrider Foundation, and Upstream. Their 'vision' includes 10 principles with the goal of a future free from plastic pollution
- **Project Aware –** an environmental initiative of the Professional Association of Diving Instructors (PADI) and became a registered non-profit in 1992 (U.S.), 1999 (U.K.), 2002 (Australia. They have undertaken 3,646 conservation actions, 182 countries, 636,237 debris items removed
- **Asian Development Bank –** has a Global Environment Facility (GEF) funded regional project called "Coastal and Marine Management in the Coral Triangle". In June 105, Asian Development Bank along with the GEF organized a beach clean- up as part of its regional project. More than 4,000 people in the region worked together to clean up the beaches for Coral Triangle Day (a 40-kilometer stretch of coastline in the southern Philippines). The data gathered from the clean-up was provided to Ocean Conservancy's 2015 International Coastal Cleanup and reported in their 2016 Ocean Trash Index report. Overall, the Philippines engaged the greatest number of individuals with 256,904 participants involved in the 2015 International Coastal Cleanup.
- **GRID Arendal -**has focussed its work on the compilation of information on marine litter and microplastics with global significance and its dissemination in the form of graphics and global maps. UN Environment and GRID-Arendal's Marine Litter Vital Graphics report was launched in July 2016 and many of the graphics from this publication were already used in the UN Environment report Marine plastic debris and microplastics – Global lessons and research to inspire action and guide policy change. This report was used in discussions on marine litter at the UN Environment Assembly held in May 2016. GRID-Arendal has also worked on bringing relevant stakeholders together at a high level side event during the ministerial section of the assembly aimed at broadening marine litter discussion and gathering input and support towards the resolution approved at the assembly.

c) the proposed alternative scenario, GEF focal area[15] strategies, with a brief description of expected outcomes and components of the project,

GEF Focal Area Strategies

38. The need to address marine debris is directly in line with the GEF's commitment to deliver global environmental benefits, particularly related to the GEF Focal Areas of Biodiversity, International Waters, Chemicals and Waste and Climate Change Mitigation. Although marine debris is not explicitly discussed in the GEF-6 Programming Directions, the issue relates to these multiple focal areas.

39. The Chemicals and Waste focal area has identified persistent organic pollutants (POPs) as a priority concern as highlighted in Program 3, Reduction and Elimination of POPs, which includes the promotion of treatment technologies, implementation of supply chain management and development of Green Chemistry through alternative technologies and materials. Plastics, the main component of marine debris, emit POPs both during production and when burned. Plastics often contain chemicals added during manufacturing and can absorb and concentrate contaminants such as POPs and mercury from the surrounding seawater. Given the ingestion and bioaccumulation of microplastics into tissues of fish, there are also human health concerns (Rochman et al 2013).

40. The International Waters focal area is committed to addressing freshwater and marine issues with a focus on transboundary issues. Objective 3 in particular addresses pollution of coasts and large marine ecosystems. Marine debris is a transboundary water issue. Similar to other forms of land-based sources of pollution (e.g. eutrophication), debris impacts neighboring or even distant countries as illustrated by the Great Pacific Garbage Patch and four other uninhabited ocean gyres that accumulate waste from distant countries.

41. With regard to Biodiversity, threatened and endangered species are particularly addressed under Program 3, Preventing the Extinction of Known Threatened Species. More broadly Program 9, Managing the Human-Biodiversity Interface addresses links between human activities and biodiversity. Marine debris has high levels of impacts on marine biodiversity through entanglement and ingestion. Of the 120 marine mammal species on the IUCN Red List, 54% have been entangled in or have ingested plastic debris (STAP, 2011). As noted, there are human health concerns tied to ingestion of plastics from seafood (Rochman et al 2013).

42. With regard to the Climate Change Mitigation Focal Area, the GEF will "Promote timely development, demonstration and financing of low-carbon technologies and mitigation options" under Program 1. Since 9% of fossil fuels are used in plastic production, promoting sustainable alternatives is of interest to climate change mitigation. Further, by promoting the conversion of plastic waste into energy, carbon emissions can also be reduced. Finally, small island developing states, a priority concern for climate change impacts, have been particularly impacted by marine debris as these islands are often first in the wake of ocean currents carrying debris.

43. Marine debris is an issue not only critical to the GEF agenda, but also an area in which the GEF has a strong comparative advantage. Whereas environmental foundations typically support environmental organizations, this issue requires engaging governments to provide regulatory measures and incentives to change the marine debris lifecycle, including improving waste

[15] For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which Aichi Target(s) the project will directly contribute to achieving.

management systems and promoting sustainable alternatives to plastic products. The GEF not only has the ability to provide support to governments, the GEF also has the political network to engage countries on this issue at national to global scales. In addition, corporations are an important player and the GEF is becoming increasingly adept at working with the private sector through the non-grant instruments in particular. The issue also requires thinking holistically, which aligns with the GEF's extensive experience on the full range of environmental issues and emphasis in GEF-6 on integrated projects. The GEF is seeking to deliver multiple environmental benefits through integrated investments across the various dimensions of the global environment. The multi-sector aspects of marine debris make it an appropriate case for an integrated investment.

44. In lieu of this and looking forward, the GEF CEO during Earth Day celebrations in 2015 in Washington, D.C., made an announcement regarding the need to urgently address this problem and the significant role that the GEF could play in contributing to solutions.

45. This led partners such as Ocean Conservancy, Ellen McArthur Foundation and the UN Environment to develop a project aiming to integrate the topic of marine plastics into the GEF portfolio by understanding the critical intervention points within the full life cycle of plastics and exploring solutions. This would enable the transition to a plastics economy based on the principles of circular economy, including sound waste management solutions.

46. The project will capitalize on relevant work by the three organizations and others to explore current drivers and gaps in the marine debris arena.

Relevance to the GEF

47. To date, the GEF investment in the arena of marine debris has been indirectly addressed through the Chemical & Waste focal area to reduce the release of POPs from manufacturing of plastics and unsound waste management and recycling practices. The approaches implemented through the Chemical and Waste focal area have however remained narrowly focused on addressing air pollution impacts and not those on biodiversity and aquatic ecosystems.

48. Following are some of the projects the Chemical and Waste focal area has invested in:

    1. "Integrated POPs Management Project: Dioxins and Furans, PCB and Contaminated Sites Management" (3622 -Philippines/World Bank), was largely focused on developing an integrated management of POPs (Dioxins, Furans and PCB) and contaminated sites.
    2. "Reducing Releases of Polybromodiphenyl Ethers (PBDE) and Unintentional Persistent Organic Pollutants (UPOPs) Originating from Unsound Waste Management and Recycling" (5052 – Indonesia/UNDP), targeted the reduction of PBDEs and UPOPs releases originating from the manufacturing of plastics as well as unsound management and recycling practices.
    3. "Development and Implementation of a Sustainable Management Mechanism for POPs in the Caribbean" (5558 – Caribbean/UNIDO), aimed at the development and implementation of a sustainable management mechanism for POPs in the Caribbean
    4. "Guidance development and case study documentation of green chemistry and technologies" (9373 – Global/ UNIDO), will focus on increasing global awareness and capacities on Green Chemistry approaches for the design of products and processes that carry environmental benefits throughout their lifecycle

49. While these projects (5052, 3622, 5558) focus on specific hazardous chemicals found in plastic (POPs, PBDEs), this MSP takes on the broader issue of marine plastics and the product's lifecycle, from its conception to its disposal, which justifies the systemic approach it relies on.

50. The workshops conducted in a previous project (9373/Global/UNIDO/Green Chemistry) aimed at educating the public on Green Chemistry principles and application and therefore involve industry experts, scientists and academia at the designing/manufacturing level. Whereas, the proposed consultation workshops and alliance conducted within Component 1 of this MSP will seek to involve actors across the entire value chain.

51. Therefore it is to be understood that the proposed project will not duplicate the work already done by the GEF but rather build on its existing projects and address a complex issue which has traditionally been tackled through end-of-pipe actions, and re-focus efforts on upstream solutions that truly address the root causes of the problem. The roadmap will strategically combine the GEF focal areas of International Waters, Chemicals and Waste, and Biodiversity, and, if appropriate, relevant elements of GEF multi-focal and cross-cutting programme (e.g. Sustainable Cities). This MSP is aligned with the GEF 6 International Waters Strategy Objective 3: Foster Sustainable Fisheries, Restore and Protect Coastal Habitats, Reduce Pollution of Coasts and LMEs, specifically Strategic Program 6: – Preventing the Loss and Degradation of Coastal Habitats. However, the project's objectives, outcomes and outputs also have multi-focal benefits to the GEF's strategies including the GEF Biodiversity Objective 4; the GEF Climate Change Mitigation Objectives 1; and, the GEF Chemicals and Waste Objective 2.

Proposed Alternative Scenario

52. Consequently, the Objective of this project is: The project aims to capitalize on a growing baseline of knowledge on marine plastics sources, pathways and environmental impacts to inform the GEF the application of a systemic approach to global plastic issues.

53. This objective will be delivered through four inter-linked components and co-ordinated by a cross-cutting project management sub-component.

- **Component 1:** Global alliance platform to reconsider the design, use, reuse and disposal of plastics
- **Component 2:** Advanced Waste Management Solutions in Asia-Pacific
- **Component 3:** GEF and Partners Strategy development
- **Component 4:** Knowledge sharing and project co-ordination

54. The four components will ensure that the following five main outcomes deliver the project objective:

- **Outcome 1.1:** Towards a more informed and robust approach to a new plastics economy through a global alliance of producers, users and disposers of plastics; including advancing innovative solutions; and strengthening public –private partnership with the national and regional policy makers

- **Outcome 2.1:** APEC region countries (Indonesia, Philippines, and Vietnam) are better positioned to secure financing and make policy commitments to address marine plastic issues and waste management.
- **Outcome 3.1:** Improved understanding of priority strategic intervention points ("hotspots") related to marine plastics, through existing and new knowledge and, the integration of all project outputs
- **Outcome 3.2:** Integrated strategic guidance provided on the reduction and sound management of marine plastics to the GEF
- **Outcome 4.1:** Up scaled evidence base - including lessons learned and best practices identified resulting in effective prioritization of solutions and interventions for marine debris and waste management for GEF

55. Solutions to ocean plastics must simultaneously (i) create the enabling conditions for systemic change in the medium-to long-term towards a circular system where plastics never become waste, through cross-value chain collaboration, innovation, re-design, definition of standards and the creation of markets; (ii) implement in the short-term the most efficient, locally appropriate integrated waste management concepts in the places that need it most, to stop the deluge of plastic waste currently in the system and entering waterways and the ocean daily.

56. The work outlined in components 1 and 2 of this project provide the first- holistic strategy to address ocean plastics on a short, medium and long-term time scale. The results will also be integrated in the analysis conducted by the component 3 of the project, aiming at guiding the GEF.

	Component 1	**Component 2**	**Component 3**
Objective	Create enablers for systemic change towards a circular model	Mobilisation of investment in waste management infrastructure	Develop a roadmap for GEF engagement on the reduction and sound management of marine plastics
Time-frame	Medium-to-long-term	Short-medium term	Study: long-term impact Recommendation to GEF: Short- medium term
Geographical focus	Global, with emphasis on Europe and the US (where most of the innovation, R&D and design capabilities are)[16]	Asia (where most plastic leakage currently occurs[17])	Global
Focus in value chain	Cross-value-chain (from design to	Waste management	Across the value-chain, with the

[16] 85% of top-20 fast-moving consumer goods companies and 95% of top-20 plastics producers are headquartered in Europe or US (source: New Plastics Economy report)
[17] 82% of leakage globally occurs in Asia (source: J. Jambeck 2015 paper)

	waste management)		objective of reducing marine plastic pollution

57. Execution of these complementary components will yield positive impacts to marine ecosystems and communities that depend on them, while at the same time shifting the global paradigm for how plastics are manufactured, used and disposed.

Project Components, outputs and activities

Component 1: Global alliance platform to reconsider the design, use, reuse and disposal of plastics

58. The concept of New Plastics Economy is one in which plastics never become waste; rather, they re-enter the economy as valuable technical or biological nutrients. It is underpinned by and aligns with circular economy principles and sets the ambition to deliver better system-wide economic and environmental outcomes by creating an effective after-use plastics economy; by drastically reducing the leakage of plastics into natural systems (in particular the ocean); and by decoupling plastics from fossil feedstocks.

59. This component, in parallel, will build on the work Ellen McArthur Foundation's NPEC initiative is delivering by creating the building blocks of a global plastics economy that is restorative by design. It will draw on insights from component 2 by identifying the biggest challenges impacting Asia - types of plastic/application/collection, processing and specific need/areas for innovation. Also contributing to the other components by informing direction - where the innovation and protocol efforts (in materials, design, collection systems, reprocessing technologies) are heading so that the collection infrastructure mobilised this MSP is future-proof. It will synthesize new learnings and understandings from the five pillars of NPEC, setting out a path of future focus.

Outcome 1.1: Towards a more informed and robust approach to a new plastics economy through a global alliance of producers, users and disposers of plastics; including advancing innovative solutions; and strengthening public –private partnership with the national and regional policy makers

60. The New Plastics Economy – Rethinking the future of plastics report concludes that individual actions and end of pipe solutions are, by themselves, not sufficient to address negative externalities, and that a new systemic global approach is required to deliver a New Plastics Economy. The New plastics Economy offers a systemic global solution that tackles the root causes of ocean plastics and other negative externalities. Transition to this new economy, will take unprecedented collaboration on a global scale - the aim of this alliance is to create unstoppable momentum towards that goal. The project will initiate the first discussions on the development of a global plastics protocol or guidelines for use multiple stakeholders, and will address key knowledge gaps, based on available scientific and economic evidence to guide the GEF. Finally, the outcome will be achieved through actions to stimulate new approaches to addressing marine plastic pollution.

Outcome 1.1 will be delivered through the following five outputs:

- Output 1.1.1: An operational alliance from across the entire value chain (including major plastic producing and plastic using corporations as well as governments, cities, collection, sorting and reprocessing companies) and advancing development and uptake of recommendations;
- Output 1.1.2: Summaries presenting policy/public-private engagement efforts and lessons and recommendations for policy makers and other stakeholders
- Output 1.1.3: Large scale innovations mobilised through competitive actions to promote a generation of new approaches to address plastics issues catalytically building on existing approaches;
- Output 1.1.4: First set of Global Plastics Protocol /Guidelines published on the redesign of materials, formats, use and after-use systems;
- Output 1.1.5: An economic and scientific evidence base to inform the GEF.

Output 1.1.1: An operational alliance from across the entire value chain (including major plastic producing and plastic using corporations as well as governments, cities, collection, sorting and reprocessing companies) and advancing development and uptake of recommendations

61. This output (through co-finance) will deliver an operational alliance of key stakeholders involved in the entire value chain, including major plastic producing and plastic using corporations as well as governments, cities, collection, sorting and reprocessing companies. It will include leading global consumer goods companies, plastic packaging producers and plastics manufacturers, cities, businesses involved in collection, sorting and reprocessing, and policymakers. Existing alliance members include - Amcor, Mars, Unilever and Veolia. The alliance will aim at increasing the number of relevant members and convene all the stakeholders together physically in two major workshops per year in order to shape and drive a series of ongoing collaborative activities across the different project activities. As a result of up taking the recommendations coming out the alliance workshops - two demonstration projects seeking to explore approaches to reduce marine plastics will be launched. These demonstration projects will involve multiple leading companies and/or cities across the plastic packaging value chain. They will demonstrate important steps towards the New Plastics Economy, for example by demonstrating viable recycling of previously unrecoverable plastics. The criteria for these projects and their selection will be through the Alliance members and reported to the PSC. The Alliance will also be important in helping to define, agree and advance the overall initiative to address marine plastics.

Activities include:

- Bi-annual cross value chain stakeholder workshops to define, agree and advance the programme;
- Shaping and launch of collaborative demonstration projects (output 1.1.2) to demonstrate key aspects of a new plastics economy at scale;
- Communicating the results to the wider Alliance members to interested stakeholders.
- Identification and shortlisting of potential demonstration actions;
- Implementation of two demonstration projects - One demonstration project launched in year 1 based on recommendations from Alliance workshops and the other

demonstration project will be launched in year 2 adopting lessons from the first demonstration project;
- Reports setting out the key enablers and methodologies to enact systemic change.

Output 1.1.2: Summaries presenting policy/public –private engagement efforts and lessons and recommendations for policy makers and other stakeholders

62. Policymakers and the wider public play an important role in accelerating the transition to a New Plastics Economy. The initiative will convene and engage policymakers in the EU, USA and selected developing countries through group meetings and bilateral conversations.

Activities include:

- EU (and other) policy makers informed and engaged;
- Synthesise this project and New Plastics Economy Initiative insights and approach to systemic change;
- Summary report setting out the key enablers and methodologies to enact systemic change in the global plastics economy.

Output 1.1.3: Large scale innovations mobilised through competitive actions to promote a generation of new approaches to address plastics issues catalytically building on existing approaches

63. Mobilising large-scale targeted innovation changes focussed on solutions with the potential to scale globally: challenges equivalent to “moon-shots” for the plastics economy. Engage key value chain participants and invite the world’s leading businesses, academics, experts and innovators to jointly define “moon-shot” innovations: focused initiatives with a high potential for large-scale impact. The work undertaken here will link to other relevant initiatives operated through, for example, US EPA (Green Chemistry), XPrize, Think Beyond Plastic, etc.

64. Potential topics could include, amongst others, new (bio-benign and self-destructive) materials, improved formats, sorting technologies, and chemical and technical markers. This effort will also identify the most effective innovation mechanisms and mobilise the most appropriate set of these mechanisms, ranging from “grand challenges to open innovation challenges in order to deliver these moon-shots.

Activities include:

- Mobilisation of large scale innovations through competitive actions to promote the generation of new approaches to address issues;
- Setting up a prize fund.

Output 1.1.4: First set of Global Plastics Protocol /Guidelines published on the redesign of materials, formats, use and after-use systems

65. A Global Plastics Protocol will aim to fundamentally redesign and converge materials, formats and after-use systems to drastically improve collection, sorting and reprocessing yields and economics. A consequence of fragmentation is a lack of alignment and standards across the value chain. However, while globally adopted standards and protocols can be found in other complex industries, today’s

plastics value chain lacks such alignment. Therefore, a global plastics protocol is needed – the 'internet protocol' for plastics – that provides a core set of standards on which to innovate. It will include guidance on materials, formats, and after-use systems. Materials guidance will not only focus on enhanced recyclability or compostability, but also on green chemistry and the substitution of substances of concern.

Activities include:

- Developing draft guidelines for discussion by Alliance members;
- Revision of first set of guidelines for the Global Plastics Protocol to prepare an Alliance agreed protocol.

Output 1.1.5: An economic and scientific evidence base to inform the GEF

66. The fragmentation that characterizes today's plastics economy can also be found in the data on and understanding of plastics and plastic packaging material flows, economics, best practices, and economic impact of externalities. While the New Plastics Economy report has made an initial effort to address this fragmentation and close key knowledge gaps, it is only the beginning. A significant amount of work remains to inform action on the plastics economy better understand the extent of today's shortcomings and solutions.

67. As part of the initiative, EMF will develop a global reference model to calculate the socioeconomic impact of plastics in the marine environment. Later efforts could focus on other knowledge gaps regarding plastics and plastic packaging material flows, economics, and other externalities such as substances of concern and enhanced transparency on flows including in developing markets. The learnings from these activities will be incorporated in an update report prepared in time for WEF and these learnings will feed into coherent guidance to the GEF through Component 3, including a summary of the preliminary recommendations to be provided by June 2017 and this report will also be updated at the end of the project.

Activities include:

- Identifying and addressing key knowledge gaps regarding plastic and plastic packaging material flows, economics and externalities
- Based on the findings, prepare key messages and an update report in time for the World Economic Forum 2017
- Synthesize the learnings of the NPEC into a preliminary project report providing guidance to the GEF by June 2017 and update this report at the end of the project

Component 2: Advanced Waste Management Solutions in Asia-Pacific

68. In order for waste management infrastructure to materialize, the right political and economic conditions need to be in place. While each city or region has its own unique particularities, there are consistent institutional and political constraints that need to be addressed to tackle this problem at scale. This requires policy and regulatory change and political will at the regional and national levels as well as innovative investment strategies, and engagement from the plastics and consumer goods producers and retailers. Component 2 aims at ensuring coordinated problem solving by

governments, development agencies, investors and the plastics and consumer goods industries; and increasing commitments and funding targeting effective marine debris solutions in key ocean plastic geographies. APEC region countries will be prioritized given the ability to make dramatic improvements to the overall issue of marine plastics by targeting solution sets in high priority ocean plastics geographies there, as well as because there exists demonstrable political will to tackle this issue at scale.

Outcome 2.1: APEC region countries (Indonesia, Philippines, and Vietnam) are better positioned to secure financing and make policy commitments to address marine plastic issues and waste management.

69. Individuals and organizations throughout the public and private sectors all have compelling reasons to solve the challenge of marine plastics and insufficient waste management. The task requires the development of favourable financial and policy landscapes so that solutions can be effectively brought to scale and sustained. It is a highly complex endeavour that requires the combined resources and capacities of actors across multiple sectors, and enduring political will to ensure that it remains prioritized in the years and decades to come. Many barriers currently exist that prevent countries from making progress on waste management, with the availability and accessibility of financing now and into the future being central ones.

70. As an initial step, this effort will produce a set of policy and practice recommendations for consideration of endorsement by APEC member economies to overcome barriers to the financing of waste management projects in the APEC region. These recommendations will provide guidance for establishing the political, economic, legal and regulatory conditions that will incentivize waste management investments by countries, multilateral development banks, venture capital firms and others in the private sector. These investments will help address the marine plastics problem, as well as mitigate the associated negative human health, economic and ecological impacts resulting from poor waste management infrastructure.

71. Finance for infrastructure in the developing world typically involves a combination of private, public and multi-lateral funding. Based-on real world examples, a key piece of research to be carried out will include identifying the most effective opportunities for the consumer goods and plastics industry to play an enabling role. The project approach will include strong engagement of corporate partners in the knowledge development and institution building process, which is key to securing commitments down the line.

72. Once the parameters, policy recommendations, and opportunities are identified, additional analytical work will be conducted to actually design a fund to facilitate a shared investment approach across national governments, Development Finance Institutions (DFIs), and the private sector for establishing integrated waste management systems.

73. An output of this work will be the set of analyses and white papers described above for the necessary policy conditions, and industry engagement to overcome key barriers and enable investable projects on the ground. The findings of these white papers and proposals will be highlighted at regional meetings with high-level political representation, such as the APEC High-Level dialogue on Urbanization, to support and advance robust pledges and financial commitments for waste management development in APEC economics. Further, as countries, individually and as a region, develop marine debris and waste management action plans, Ocean Conservancy will use the results of this analytical work to develop country specific and region wide recommendations for increasing impact and producing sustainable reductions in inputs of plastic to the ocean.

Outcome 2.1 will be delivered through the following six outputs:

- Output 2.1.1: Landscape analyses to highlight waste management financing opportunities, barriers to implementation and gender issues in key Asia Pacific economies.
- Output 2.1.2: Development of a documented baseline on marine plastics and waste management conditions at selected sites in the target region
- Output 2.1.3: A series of country and region specific recommendations (Indonesia, COBSEA, etc.) developed to address marine plastic and waste management challenges, to inform GEF.
- Output 2.14: Documented recommendations on how to engage plastics makers, consumer products companies and retailers on corporate support for waste management to reduce marine plastics.
- Output 2.1.5: Locally appropriate marine plastic and waste management solutions engaging local civil society stakeholders promoting a bottom up approach
- Output 2.1.6: Peer reviewed publications identifying the most efficient volunteer monitoring protocols for measuring marine debris, development and deployment of a monitoring framework to CSOs in APEC region.

Output 2.1.1: Landscape analyses to highlight waste management financing opportunities, barriers to implementation and gender issues in key Asia Pacific economies.

74. A key element of this work involves conducting analyses that delve deeper into waste management, financing opportunities, and implementation barriers specific to key ocean plastic economies in Asia Pacific. An initial output will be a landscape analysis to evaluate the supply and demand for waste management project finance in key Asia Pacific economies; identify main drivers of imbalance between the two; analyse the best practices used in analogous sectors to accelerate project finance; and explore the feasibility of applying these best practices to the waste management realm. The landscape analysis will also include recommendations relevant to the local and national context in the target geographies of Indonesia, Philippines, and Vietnam.
75. The lessons and insights from the landscape analysis will be shared at a high-level summit to be held this fall and co-hosted with Japan (the current G7 Chair), APEC and the U.S. State Department on waste management finance in Asia. The summit will bring together representatives from developing nations, the finance community, civil society, the plastics and consumer goods industry, development banks, multilateral funders and waste experts. The goal is to help establish project investment conditions that will pave the way for a durable funding mechanism. Ocean Conservancy estimate that multi-lateral lenders and major donors alone fund up to $2 billion (U.S. dollars) annually on sanitation and water-related projects in our priority countries—both of these issues are worsened, and investments in them diluted, by mismanaged waste and marine debris. This is an example of some of what could potentially be leveraged towards increased and improved waste collection and targeted to have a significant impact on reducing marine debris.
76. A follow on analysis will consider the specific opportunities for corporate support and funding. Multiple models exist to do this: a subset of corporate actors can voluntarily contribute funding;

revenue can be generated through regulatory programs like Extended Producer Responsibility (EPR) schemes; industry players can act as a guaranteed buyer for recycled content; and other fees or taxes can be assessed. Ocean Conservancy will develop a white paper on the different opportunities, models, and requirements for industry to support waste management solutions going forward. The findings and insights from the analysis will be shared with a goal of fostering political leadership from within the APEC region. Targets include: identifying key players and strategies for activating an investment coalition as well as highlighting national commitments and continued expressions of support by APEC leadership in support of marine debris/waste management solutions. By socializing findings and broadening regional support and engagement of other governments and DFIs we're conditioning the climate for GEF to prioritize efforts and leverage additional impact on reducing marine debris. More specifically, we will build on APEC's virtual working group on marine debris, as well as other existing platforms to integrate this work into discussions on urbanization challenges, infrastructure priorities and barriers to investment across the region. APEC can serve a convening function, support our access to the right experts and political leadership, and provide a mechanism for our work to be endorsed at a regional scale. Relevant findings and lessons learned from this work will feed into the implementation of Output 3.2.1.

77. Next, a design effort will be undertaken to develop a specific proposal for a joint investment approach to bring resources together from government, the private sector, development finance entities, and private investors. This design effort will examine how a joint fund could be structured, funded, managed, and governed. Creating a credible, shared business case, defined income and payment streams, developing a pro-forma balance sheet and engineering strong net economic benefit to private sector and government stakeholders are critical to bring the abstract concept to life.

78. Finally, the project will also explore key gender aspects of addressing waste management, resulting in the identification of priority dimensions for future consideration. This output will link closely to the activities undertaken in Component 3.

Activities include:

- Performing a landscape analysis to determine key factors in the financing needs and barriers
- Assessing gender roles and needs within waste management and plastic waste in particular
- Developing 4 white papers relevant to plastic waste in APEC region
- Attending and presentation of recommendations at regional APEC meeting.
- Identifying key regional (and global) players for activating financing opportunities.
- Developing preliminary summaries to inform GEF
- Proposal for a Joint Investment Fund with options developed and launched

Output 2.1.2: Development of a documented baseline on marine plastics and waste management conditions at selected sites in target region

79. Baseline waste management and marine debris conditions in key geographies need to be established in order to prioritize interventions, and to measure effectiveness of follow on projects.

An output of this work will be conducting baseline assessments and establishing monitoring frameworks with local in-country partners for at least 2 sites in the target APEC region.

80. As commitments and plans are put in place at the national level the project will work with local partners, including Ocean Conservancy's International Coastal Cleanup network, to conduct regional, national, or site specific analyses, and baseline monitoring of waste and marine debris conditions. This will help identify priority sites for further action as well as to establish a baseline against which project success can be measured.

Activities inlcude:

- Undertaking assessments and formulating a baseline at sites in the APEC region to aid subsequent management and mitigation projects (providing contribution to outcome 3.1)

Output 2.1.3: A series of country and region-specific recommendations developed to address marine plastic and waste management challenges, to inform GEF

81. This output is targeted at developing specific national and regional recommendations to enable action to be undertaken to address the issues of marine plastic pollution. Key geographies will be identified that are significant sources of ocean plastic (for example) due to inadequate waste management, and are identifying and prioritizing these issues for increased attention. For example: Indonesia recently announced its intention to develop a national action plan targeting marine debris; China and the U.S. have identified the issue of marine debris and waste management as a priority issue in the Strategic and Economic Dialogue between the two countries. The Coordinating Body in the Seas of East Asia (COBSEA), a UN Environment regional seas program, is exploring developing a regional action plan on marine debris. The project will leverage existing partner relationships and seek out new opportunities to partner with key officials, civil society groups, multi-lateral partners, and industry contacts to develop recommendations, provide advice, and offer support in turning this attention into specific commitments, plans, and targets as appropriate for the respective entity and/or geography. The project's engagement will occur in a continuum, first outreach to elevate the issue and its urgency, and then technical assistance as national levels get underway in earnest and parties central to those efforts display a receptivity and request for official TA.

82. In addition to offering specific expertise and partners as resources, the project will also connect these efforts with regional dialogues through APEC to continue to reinforce the political leadership and attention on this issue throughout the region, as well as to spread lessons learned and best practices.

Activities include:

- Development of three country specific recommendations and assisting with specific action plan commitments, and targets from countries with high levels of plastic leakage into the ocean.
- Developing regionally specific recommendations on marine plastics for presentation/acceptance at regional events.
- Providing technical and/or policy advice to regional stakeholders.

Output 2.1.4: Documented recommendations on how to engage plastics makers, consumer product companies, and retailers on corporate support for waste management to reduce marine plastics.

83. Through Ocean Conservancy's TFSA, the project will host two meetings that bring together industry, NGOs, scientists and governments to evaluate recommendations and develop a road map and requirements for broader industry engagement. Recommendations on corporate support for waste management to reduce marine debris will be presented to over 25 brands, resin producers, retailers, and industry associations. Structurally, Ocean Conservancy's TFSA has proven to be an effective platform by which to galvanize a coalition of key players that can bring to bear access to networks (including value chain connections), technological expertise pertaining to recycling and recovery systems, and economic resources. Looking ahead, we will continue to strategically grow the TFSA membership and to deepen the engagement and commitment of our corporate partners to make a measurable impact on the quantity of plastic flooding our ocean.

84. In addition, Ocean Conservancy/project staff will continue to speak at industry events to grow dialogue and interest around addressing ocean plastics as well as to present the findings of the landscape analysis, the proposal for a joint investment fund, and other analyses develop in Output 2.1.1. Examples of the types of events will participate include: The Business for Social Responsibility conference, Sustainable Packaging Conference, Sustainable Brands conference, Plasticity, and the World Business Council for Sustainable Development Meeting.

Activities include:

- Engaging consumer product companies and preparing appropriate materials and advice to enable companies to implement mechanisms to reduce the impact of their products on the marine environment.

Output 2.1.4: Locally appropriate marine plastic and waste management solutions engaging local civil society stakeholders promoting a bottom up approach.

85. Engaging local civil society stakeholders will be a key to fostering bottom-up support for marine debris and waste management solutions. The larger landscape of stakeholders working on plastics is diverse and evolving rapidly with concern over ocean plastic pollution among the public becoming a broad and far-reaching concern. The broader NGO community working on plastics is beginning to align around some key issues and to look for opportunities to collaborate on solutions.

86. The project will engage with civil society groups with interests around marine debris, plastic pollution, waste management and zero waste that are active in the U.S., globally, and APEC region. The goal is to ensure that plans and solutions have broad support and represent the input, expertise and values of a diverse array of stakeholders. Examples of some groups the project expects to engage include the Global Alliance for Incinerator Alternatives, Story of Stuff, Oceana, Greenpeace and World Wildlife Fund. As part of another output, to capture the interests and perspective of groups engaged locally in the Asia Pacific region, the project will engage Ocean Conservancy's network of International Coastal Cleanup coordinators and host NGO stakeholder meetings to gather feedback and galvanize support from our robust network of partners in Asia Pacific countries. This stakeholder engagement will help raise awareness at the country-level for projects and solutions that will ultimately be valuable to GEF efforts in future years.

Activities include:

- Identifying and engaging APEC specific NGOs and CSOs;
- Providing specific material to aid NGOs/CSOs in a variety of efforts to advance marine debris solutions.

Output 2.1.5: Peer reviewed publication identifying the most efficient volunteer monitoring protocols for measuring marine debris, and development and deployment of a monitoring framework to CSOs in APEC region.

87. This output will identify a standardized monitoring protocol and develop a training program that will inform the above baseline assessments, as well as ongoing monitoring frameworks. Ocean Conservancy is currently working with the United States' National Oceanic and Atmospheric Administration and Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) to establish the most efficient and statistically relevant monitoring protocols for future use. Data from these activities, when analysed, will then result in a suite of recommendations to improve statistical power, reduce data collection effort and associated costs, improve scientific inference, and maximize scientific and policy insights related to marine debris monitoring and clean-up efforts going forward.

88. Results from this analysis will be published in peer-reviewed scientific literature - including recommendations that identify the most appropriate and efficient protocol for achieving a diverse range of objectives (e.g. debris density, debris accumulation, debris removal) - and used to develop a standardize Monitoring Toolkit and training materials. These materials will provide the basis for the training and assessment activities in Output 2.2.3, and will ultimately be used by our civil society partners noted in Output 2.2.5 for ongoing in-country monitoring, critical to assessing the efficacy of newly implemented waste mitigation, management and minimization projects.

Similar to output 1.2.2 and outputs from Component 3, Component 2 will also synthesize results from its findings and prepare a preliminary report to guide the GEF.

Activities include:

- Preparing paper on monitoring protocols;
- Developing Monitoring Toolkit and training materials;
- Development of preliminary reports to guide the GEF by June 2017.

Component 3: GEF and Partners Strategy development

The objective of this component is to present a clear snapshot of the current landscape of approaches and stakeholders in the full life cycle and value chain of plastics, and to develop a roadmap for the GEF to most meaningfully engage on this topic in its next funding cycle. It will capture the results of Components 1 and 2, and build on the wider body of work undertaken through different initiatives by UN Environment, UNIDO, World Bank, Asian Development Bank and other relevant GEF agencies, NOAA, Think Beyond Plastic, Ocean Recovery Alliance etc., to assist the GEF in determining its most appropriate niche to be able to significantly contribute to solving the worldwide problem of marine plastic debris.

Outcome 3.1: Improved understanding of strategic intervention points ("hotspots") related to marine plastics through existing and new knowledge and the integration of all project outputs

89. A life cycle approach18 will be applied to identify the priority hotspots19 in the plastic value chain on which the GEF could focus, in order to have the most effective impact on reducing marine plastics debris and microplastics. This will be informed by current knowledge on marine plastics and microplastics in order to best target proposed areas of focus (e.g., products and/or polymers common in the oceans). Life cycle thinking provides the holistic systems thinking needed to understand and design a circular economy or similar approaches20. Indeed, it helps in:

    - Understanding complex systems of production, consumption, disposal and final fates of plastics in its life cycle along the value chain;
    - mapping the priority hotspots through the combination of quantitative and qualitative analysis, and stakeholder engagement;
    - identifying the best improvement options out of a wide array of approaches involving all life cycle stages and actors involved in waste strategies, from sustainable sourcing, design for sustainability, eco-innovation, sustainable business models, value added products, product sustainability information for better informed consumer choices, etc.;
    - Avoiding unintended trade-offs: by avoiding the focus on one single metric (e.g. material resource productivity or efficiency) life cycle thinking highlights potential trade-offs with other impact areas such as toxic emissions affecting human health or ecosystems, or climate change;
    - Supporting robust (product) sustainability information (e.g. to inform consumers, investors, companies and governments), which may help enhance trust by consumers by increasing ease, reliability and transparency in comparing options for a more circular economy.

    Outcome 3.1 will be delivered through the following one output:

    Output 3.1.1: Stocktaking analysis on existing actors, initiatives, policy frameworks associated with key sources and sectors responsible for macro and micro marine plastic pollution including the identification of strategic intervention points ("hotspots") and specific knowledge gaps as well as recommendations on a full life-cycle approach

90. Building on the baseline and deliverables of the project outputs, a stocktaking analysis capturing latest studies and data, information on which plastics have been found in oceans, and on their sources and pathways to the oceans will be looked for, in order to focus on the source and travel mechanism of those plastics that are found in oceans, identifying hotspot regions where main policy actions should be concentrated for higher impacts (by applying a material flow analysis and life cycle assessment), mapping the existing players, governance and policy frameworks (including international and national legal frameworks, regional cooperation mechanisms and relevant institutions) and initiatives (including international and regional initiatives) from a life-cycle perspective, i.e. along the value chain, and highlighting the most problematic products and polymers. The project will also identify gaps in knowledge, technology, awareness and policy, and

[18] Techniques and tools to inventory and assess the impacts along the life cycle of products, service or systems. It considers the entire life cycle of a product or system, consisting of consecutive and interlinked stages, from raw material acquisition (from natural resources) to final disposal. The greatest benefit is that it helps to identify the stages of the life cycle generating the most environmental impacts. Applying the life cycle approach is instrumental to identify the key "hotspots", for prioritizing solutions and actions to reduce the environmental impact efficiently.

[19] "Hotspots" means those areas driving highest impacts and offering the largest opportunities for resource efficiency and reduced environmental and social impacts.

[20] Systems-based approaches can include sustainable materials management, material cycle society and circular economy approach, all of which contribute to the transition of more sustainable consumption and production patterns.

determining potential actions. On those key hotspots identified, barriers and opportunities will be analysed, and recommendations pertaining to the reduction and sound management of plastic waste, and consequently addressing the issues of marine plastics, will be proposed, some of which will directly derive from the outcomes of Components 1 and 2.

Activities include:

- Mapping out the relevance of marine plastics issue to the GEF and its different focal area;
- Identifying key players and initiatives – at a global and national scale - through a consultative process inclusive of dialogues with GEF agencies involved in relevant work, Non-Governmental Organizations, UN agencies and national and local Civil Society Organizations;
- Identifying key sources and sectors responsible for generating marine plastics
    - Land-based sources/sectors generating macroplastic litter (e.g., packaging, agriculture, construction, coastal tourism) and microplastic litter (e.g., cosmetics and personal care products, textiles, terrestrial transportation)
    - Sea-based sources/sectors generating macroplastic and microplastic litter (e.g., fisheries, aquaculture, shipping, tourism and recreation);
- Identifying key hotspots in the life cycle of these sources/sectors, through life cycle assessment, in order to prioritise intervention points to have a lower impact on the sector.
    - Possible strategic intervention points could include: (i) upstream interventions in the production of plastics and the design and development of alternatives to plastic (e.g. fostering innovation in design, as well as materials – including alternatives to plastics, where appropriate and feasible); (ii) downstream interventions, such as solid waste management, water/wastewater management and removal efforts of marine plastics; (iii) awareness raising initiatives at the consumer level; (iv) policy level interventions which aim at removing barriers and strengthening incentives to closed material loops in the plastics sector;
- Identifying existing international governance frameworks relevant to marine plastics, including the GPA/GPML, Agenda 2030/SDGs, UNCLOS, relevant biodiversity-related Conventions (e.g., CBD, CMS) and chemical-related conventions (e.g., BRS Conventions), as well as regional cooperation mechanisms, such as the Regional Seas Conventions and Action Plans;
- Identifying Legal and policy approaches at the national and sub-national levels, including bans/fees targeting items of special concern (e.g., plastic bags, bottles, polystyrene containers), extended producer responsibility (EPR) approaches, watershed management approaches, circular economy packages or equivalent. An upcoming report on Marine Litter Legislation developed by the Environmental Law Institute in partnership with UN Environment /GPA will be directly relevant to this analysis;
- Comparative analysis of hotspots, related priority actions, and existing stakeholders and initiatives to identify **gaps** in knowledge, policy, technology and awareness.

Identification of knowledge gaps will include information on chemicals associated with plastics and their potential impacts on human health, among others;

- Analysis of potential market, technological and policy **barriers** to the deployment of closed material loops solutions in the plastic value chain and of the available incentives to upscale their dissemination;
- Assessment of potential measures that could turn into **opportunities**, such as enhancing responsible behaviour practices within the consumers' community through available consumer information initiatives;
- Initial **recommendation for actions** to tackle the issue of marine plastics, through multi-stakeholder consultation.

Outcome 3.2: Integrated strategic guidance provided to the GEF on the reduction and sound management of marine plastics

91. The objective of this outcome is to synthesize the results of Output 3.1.1, as well as the interim results of Components 1 and 2 in order to develop strategic guidance for the GEF. Outcome 3.2 will be delivered through the following three outputs:

    - Output 3.2.1: Position paper/report based on findings from output 3.1.1 and preliminary findings from C1 and C2;
    - Output 3.2.2: Report of technical consultation meeting;
    - Output 3.2.3: Strategic guidance to GEF on the reduction and sound management of marine plastics, including systemic approaches and recommendations on potential partners and project concepts.

Output 3.2.1: Position paper/report to GEF based on findings from outputs 3.1.1 and preliminary findings from C1 and C2

92. A position paper / technical report will be developed, synthesizing the information gathered in Outcome 3.1, as well as the results of Components 1 and 2 up to that stage providing guidance on how the GEF, relevant agencies and the countries could engage on the issue of marine plastics. An interim position paper will be developed by June 2017. The full position paper / technical report will be finalized by October 2017 and will provide the basis for the technical consultation meeting outlined in Output 3.2.2.

Activities include:

- Drafting preliminary language on the reduction and sound management of marine plastics to guide GEF (discussions by early 2017 and position paper by June 2017);
- Preparing position paper / technical report (by October 2017).

Output 3.2.2: Report of technical consultation meeting

93. On the basis of the position paper / technical report developed in Output 3.2.1, and after convening a peer-review process to collect initial feedback to the proposal, a technical expert meeting will be organized to further enhance the quality of the document and lead to the development of the integrated approach programme.

Activities include:

- Organizing a peer-review process;
- Organizing technical expert meeting;
- Preparing report on the technical expert meeting.

Output 3.2.3: Strategic guidance to GEF on the reduction and sound management of marine plastics.

94. Strategic guidance will be provided outlining a detailed set of recommendations, including short, medium and long-term goals that could be accomplished at global scale,. This roamap would also include recommendations on potential partners (key players at the governmental, IGO, business, NGO and philanthropic level), as well as possible projects that could be developed as part of an integrated approach program.

Activities include:

- Input for a programmatic response to addressing marine plastics.

Component 4: Knowledge management, awareness raising and project coordination– coordinated by UN Environment

Outcome 4.1: Up scaled evidence base - including lessons learned and best practices identified resulting in effective prioritization of solutions and interventions for marine debris and waste management for GEF

95. As new solutions and approaches come online in coming years, it will be critical to ensure that ongoing learnings and emerging science effectively reach key audiences and stakeholders at the global, regional and national levels. Objectives of that outreach and mobilization include broad sustained global support for this agenda and increased issue salience, new science that closes pressing knowledge gaps and informs policymaking and solution development, and ramping up of in-country capacity to both bolster this agenda broadly and more specifically, for effectively monitoring progress in stemming the tide of marine debris over time.

Outcome 4.1 will be delivered through the following two outputs:

- Output 4.1.1: Dialogue for leading researchers on emerging marine plastics science to address knowledge gaps in the areas of sources, distribution, fates and impacts of plastics in the ocean;
- Output 4.1.2: A communications strategy integrating novel waste management, finance and science findings that fosters awareness, encourages public adoption of key concepts, and secures high quality media coverage on solutions to ocean plastics.

Output 4.1.1: Dialogue for leading researchers on emerging marine plastics science to address knowledge gaps in the areas of sources, distribution, fates and impacts of plastics in the ocean

Closing key knowledge gaps on marine debris

96. Fundamental knowledge gaps about marine plastics exist in four areas: the sources, distribution, fates and impacts of plastics in the ocean. A refined understanding in all four categories that bring together interdisciplinary expertise is critical to developing effective policies to reduce inputs and prevent impacts of plastics on ocean health. An output of this work will be to bring together leading scientists from around the world in regional workshops to define a research agenda and workplan to answer critical research questions to further elucidate the scope, scale, and impact of marine plastics and identify where intervention strategies can be most impactful. The results of these workshops will be closely related to the work developed in Output 3.1.1.

97. This will build on the expansive network of science experts Ocean Conservancy created through its working group at the National Centre for Ecological Analysis and Synthesis; Ellen McArthur's technical partners and UNEP's suite of stakeholders that are especially part of the Global Partnership on Marine Litter. Meetings will take place in conjunction with other regional meetings (e.g. planned CBD events) or virtually through video conference to minimise costs.

98. The output will support the publication of at least one peer reviewed publication on the scope, scale or impacts of marine plastics. These findings will be widely disseminated throughout the science and conservation communities by presenting at major ocean conferences.

Activities include:

- Holding workshops for researchers;
- Conduct work that supports the development of a peer-reviewed paper on the scope, scale or impacts of marine plastics that will also contribute to achieving Output 3.1.1.

Output 4.1.2: A communications strategy integrating novel waste management, finance and science findings that fosters awareness, encourages public adoption of key concepts, and secures high quality media coverage on solutions to ocean plastics.

99. This output is aimed at ensuring that a wide range of interested stakeholders have relevant and recent information to address issues associated with marine plastics, with a key target of this output being to achieve increased issue salience. The project will focus on securing targeted, high-quality media coverage and developing key messaging to be shared with stakeholders to establish a common language and global narrative on this issue. Overall, the communications will focus on the message that ocean plastic pollution is a solvable problem and that by focusing on waste management and collaborative approaches with civil society, businesses, multi-nationals and affected countries, it is possible to meaningfully stem ocean plastic pollution in the next decade.

100. At the international level the project will participate in at least 8 global fora, and will seek to positively influence agendas, and provide relevant content and expertise. At a broader policy level, there will be a series of international events over the course of this project at which marine debris will be highlighted. The project will engage in these events with a goal of supporting solutions, crafting a policy narrative around the need for investment in waste management infrastructure, and building broader political support for this work.

101. In June of 2017 the UN will hold a High-Level Conference to Support Implementation of SDG 14. This will be a key opportunity to broaden global support for addressing waste management as a priority solution for marine debris, and securing additional commitments to action. Among other forums and platforms, the project will participate as appropriate include: World Economic Forum, Economist's World Ocean Summit, Global Waste Management Symposium, APEC meetings, UN

meetings, and G7 meetings. Preliminary reports will be provided to UN Environment to inform the implementation of Output 3.2.1 and to the GEF directly.

Activities include:

- Facilitating the publication of 500 articles globally and 125 regionally per year;
- Developing and delivering key messages linking science-policy;
- Developing science to policy briefing papers per year to encourage national/regional policy development;
- Developing guidance documents on marine plastics for key stakeholder groups;
- Monitoring global impressions relating to the reports and other publications (press, peer-reviewed paper, etc.) with a target of 750 million. Identifying a programme of international high-level meetings that will shape the global ocean plastics policy agenda;
- Developing appropriate material and messages to highlight;
- Providing findings and insights (from Outputs 2.1.1; 2.1.5; and 2.1.6) at eight, or more, meetings over the project's duration;
- Providing GEF with a summary response from the discussions of meetings (attended by June 2016) to inform the GEF

Outcome 4.2: Successful delivery of the project objective and outcomes in components 1-3

102. This outcome is designed to facilitate the day-to-day co-ordination of the project and provide technical direction through support bodies with a focus on scientific knowledge, research and links with industry. The Project Management (described in section 09) will co-ordinate the activities of the three main partners and ensure that all actions are integrated and information disseminate to interested stakeholders.

Output 4.2.1: Integration of scientific knowledge and research

This output, through the formation and operation of a Scientific and Technical Advisory Group (STAG) will oversee the scientific direction of the project and will also have an input to the peer-reviewing process of the many publications resulting from the work. The members of the STAG, drawn from both, the project partners and invited experts, will hold an annual meeting (typically just before the Project Steering Committee (PSC) meeting) and hold additional virtual meetings as required.

Activities include:

- Developing and agreeing Terms of Reference for the STAG (to be approved by the PSC);
- Providing comments and other inputs on the workplans and results;
- Providing comments on the technical merits and validity of project publications as part of an on-going internal peer review process.

Output 4.2.2: Integration of Industry

103. Key to both component 1 and 2 of this project will be the involvement of industry. Component 2 will engage the previously established Trash Free Seas Alliance to implement innovating financing approaches for waste management and reducing the pollution of the marine environment from plastic products. Component 1 will seek to establish the New Plastics Economy Alliance and to advance the work of developing a Global Plastics Protocol. This output will lead to the establishment and operation of an Industry/Private Sector Advisory Group. The members of this advisory group will be drawn from key industries/private sector organisations that are engaged with components and will hold an annual meeting (typically just before the PSC meeting). The purpose of this advisory group will be to bring together industry perspectives across component 1 and 2 in order to provide input for component 3, output 3.2.3.

Activities include:

- Developing and agreeing Terms of Reference for this Advisory Group (to be approved by the PSC);
- Providing advice where needed to the establishment of the Alliance and its likely priorities;
- Providing input to UN Environment for output 3.2.3.

Output 4.2.3: Effective co-ordination of project activities, monitoring and reporting to UN Environment and GEF

104. The main objective of this output is the overall day-to-day project management, including the supervision of the M&E system, the preparation of PSC and Inception meetings, development of website and GEF IW: LEARN relevant materials, etc. A description of the approach to project governance and management is presented in Section 9 – Figure 1.

Activities include:

- Establishing and maintaining the day-to-day management of the project through the appointment and retention of a Project Manager;
- Establishment and operation of an annual Project Steering Committee (PSC) meetings including the provision of a secretariat to the PSC meetings;
- Organisation of an Inception Meeting within the first three months of the project, including the provision of all supporting documents and the drafting of an Inception Report;
- Organising a final project closing meeting to highlight the achievements of the project and act as a launch opportunity for any future actions that will derive from this project;
- Develop a website, consistent with the guidelines provided by the GEF IW:LEARN;
- Developing GEF experience notes and at least one results note
- Co-ordinating and registering on the project website the dissemination of information and publications;
- Participation in an GEF International Waters Conference;
- Facilitating the Terminal Evaluation.

d) incremental/ additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF/SCCF, CBIT and co-financing;

105. Marine plastics is a massive, global, cumulative and exponential issue (with plastics production having increased 20-fold over the past 50 years, and expected to quadruple again by 2050). As such, a root cause solution needs to be ambitious, global, and catalytic. Addressing ecosystem problems resulting from impacts of marine plastics is a global problem affecting developed and developing nations. Waste management has long been a challenge for developing economies, with well-established barriers like insufficient resources, lack of priority, and challenging investment conditions. The funding provided by GEF for this project will enable catalytic co-financing resources to be utilised and allow new resources, policy tools, and stakeholders to work on solutions by addressing this through the lens of ocean impacts and the cross boundary, even global nature of those impacts.

106. Reshaping the global plastics economy requires a great deal of unprecedented collaboration of actors across the business and philanthropic community to deliver the reach, influence, and the necessary knowledge and capacity. This project is best placed to push the agenda of addressing marine plastics systemically forward. The partners of this project – Ellen McArthur Foundation, Ocean Conservancy and UN Environment – all have the institutional mandate to address the issue of marine plastics. This collaborated effort will enable each partner to bring together different stakeholders from both the upstream and downstream realm. GEF, being an important and influential leader in the environmental philanthropic community, will act as an essential contributor to stimulate and accelerate the change needed to reshape the plastics economy.

107. GEF involvement, together with other leading philanthropic organisations and business has the capacity to showcase the importance of systemic change solutions to impact plastic waste as one of the world's most pressing environmental challenges. GEF involvement will bring together key actors across the value chain stimulating unprecedented and sustained collaboration across the global value chain and between plastic producing and using corporations, governments, cities, academia, CSOs collection, sorting and reprocessing companies etc.

108. The funding will lever and shape the application of $10,932,645 of additional funding notably stimulating ambitious innovations, shaping demonstration projects, advancing the understanding of socio economic impact and developing a global plastics protocol.

109. This funding will allow targeted messaging and communications work to draw attention to the issue in the communities and with policy makers in the target region, increasing the incentive for governments and finance institutions to prioritize waste management. Funding to advance the science around the impacts of plastic in the ocean, particularly related to toxicity and food chain implications, will also strengthen the case for a systemic approach towards marine plastics, focusing on more strategic stages of the life cycle of plastics, to reduce and soundly manage those plastics that end up in the ocean. It would include working jointly on solutions that are not just involving regional and national policy makers, but also the consumer goods and plastics industries.

110. This project will further leverage the private sector, and the substantial resources they bring to the table, allowing to connect the national and regional policy work with the industry and policy makers. Due to the global nature of the impacts of marine debris, consumer pressure on industry in developed markets like the US and Europe, where concern about plastic pollution and marine debris is high, will be leveraged to bring global partners and resources to invest in solutions in developing economies. As such the analyses and solutions developed will be informed by and have buy-in from the different sectors that are needed to tackle these challenges. And as regional and national plans

and commitments are identified, specific pathways for industry to engage and support action will have been identified.

111. The linkage this project creates between the innovation and design work of component one, and the effort to address waste management in developing countries in component two, will ensure that these efforts proceed in parallel and in a coordinated way. It will conduct to drawing lessons and experiences, which will be completed with study from a lifecycle perspective, to formulate recommendations for a future GEF Strategy in component three.

e) global environmental benefits (GEFTF), and adaptation benefits (LDCF/SCCF);

112. There are many global environmental benefits to addressing marine plastics. Any one of these reasons in isolation may not provide sufficient motivation to take collective action, but the ocean is inherently connected, integrated and global, and together they elevate this issue to one of upmost global importance. There is a growing and compelling understanding of the negative societal impacts of ocean plastics, including health, marine species, carbon, litter and lost economic opportunity. The user benefits of plastics are undisputed and will most probably continue to drive massive growth in coming years. To stem the tide of plastics making their way to the ocean, it is critical to acknowledge that plastic production and consumption should be sustainable. In order to do so, key intervention points will be identified, along the whole value chain of plastics to reduce and soundly manage plastics that are used to reaching the sea.

113. The overarching ambition of this project, in parallel with the work each of the involved organizations are doing, is to catalyse self-sustaining, irreversible momentum towards the systemic management approach to addressing marine plastic pollution. This project will contribute towards:

- Achieving drastically improved system-wide economic and environmental outcomes towards an effective after-use plastics economy; drastically reducing the leakage of plastics into natural systems (in particular the ocean) and other negative externalities; and decoupling from fossil feedstocks.
- Providing a direct economic incentive to avoid leakage into natural systems and help enable the transition to renewably sourced feedstock by reducing the scale of the transition.
- Improving after-use infrastructure in high-leakage countries, increasing the economic attractiveness of keeping materials in the system and reducing the negative impact of plastic packaging when it does escape collection and reprocessing systems, including accelerating efforts to reduce substances of concern.
- Reduce the need for virgin feedstock. Development of renewably sourced materials to provide virgin feedstock. Allow the plastic packaging industry to complement its contributions to resource productivity during use with a low-carbon production process.
- Multi-state cooperation to reduce threats to international waters through regional and international collaboration to improve waste management to stop debris from reaching the marine environment;
- Restored and sustained freshwater, coastal, and marine ecosystems goods and services, including globally significant biodiversity, as well as maintained capacity of natural systems to sequester carbon by reducing the threat of plastic waste to tourism, fisheries and other maritime commerce and services; and
- Reduced vulnerability to climate variability and climate-related risks, and increased ecosystem resilience through reduced greenhouse gas emissions as a result of illegal

dumpsite closures, landfill mitigation and diversion, and other forms of improved waste management that contains plastic waste.

114. A global approach is necessary as the economics, production and consumption, and waste circulation of plastics is globalized, and its impact is also global, with consequences on developing countries. Through the development of an integrated approach program, focusing efforts on a holistic framework based on systemic approach, the GEF can catalyse urgent action to tackle marine plastics upstream, focusing on the priority intervention points of the value chain, resulting in significant reductions of marine plastic pollution and its extensive impacts on marine and coastal ecosystems. Finally,' the project will provide long-term global environmental benefits through the guidance provided to the GEF.

f) innovation, sustainability and potential for scaling up.

115. The project innovation comes from the building upon the extensive baseline of actions and global policies, heavily supported through the work of the partners to influence change through multiple levels of stakeholders. This project will ensure that linking marine plastic and sound management of plastics, including waste management, is prioritized among influential stakeholders and on important global agendas, so that it is a durable and self-propagating priority in the years to come. One of the most innovative dimensions of this project is leveraging the new data identifying which geographies globally are the most critical places to stage interventions to achieve the biggest impact for the ocean vis-à-vis marine debris. Further, this project will innovate at the global partnership and investor level, as it is poised to bring the consumer goods industry and other relevant stakeholders to the table at a higher level than before.

116. The roadmap to be developed through Component 3 will be in itself an innovative approach for the GEF to address marine plastic pollution. It will address a complex issue which has traditionally been tackled through end-of-pipe actions, and re-focus efforts on upstream solutions that truly address the root causes of the problem. The roadmap will strategically combine the GEF focal areas of International Waters, Chemicals and Waste, and Biodiversity, and, if appropriate, relevant elements of GEF multi-focal and cross-cutting programme (e.g. Sustainable Cities). It will also draw from the learnings from Components 1 and 2, as well as existing literature, to identify where the GEF could add most value in fostering innovation as far upstream as the production level. Amongst other options, innovative approaches to financing waste management will also be explored as an immediate action, with the ultimate goal of achieving long-term solutions to reduce and soundly manage plastic consumption and production and prevent marine plastic pollution. This approach, capability, alliances, network, track record and momentum will establish an entirely new level of governmental, business and community understanding of the magnitude and urgency of the plastics waste issue, and catalyse a global response in a way and at a scale and a pace that has never before achieved for an issue of this type. The outcome of this mobilisation will fundamentally shift the global debate, approach and sense of urgency setting a lasting agenda for systemic change and provide a key input to the GEF to promote the up-scaling and replication of these actions.

2. *Child Project?* If this is a child project under a program, describe how the components contribute to the overall program impact.
N/A

3. Stakeholders. Will project design include the participation of relevant stakeholders from civil society organizations (yes ☒ /no ☐) and indigenous peoples (yes ☐ /no ☐)? If yes, elaborate on how the key stakeholders engagement is incorporated in the preparation and implementation of the project.

117. Stakeholders engagement and participation (including national and regional governmental representatives, international organisations, CSOs, NGOs, academics, private sector, etc.) will be central to the activities of this project

118. A key element of all project components will be to assess the current landscape of stakeholders across the full life cycle of plastics that are relevant to the issue of marine plastics. This stakeholder mapping will include existing end expected players in the circular economy of plastics, including those engaged in waste management to reduce marine plastics. It will also include an analysis of the important stakeholders who are not yet engaged in the issue, but who are a key for the development of solutions and/or directly or indirectly affected by both the problem and the possible solutions.

Stakeholder	**Role in Project**
Public Sector / Policy makers at national and regional levels	Including APEC countries, EU representatives, inter-governmental meeting participants (through UNEA, GPA, GPML etc.) The European Commission committed to deliver a plastics strategy within the context of its circular economy package by 2017 and set new plastics recycling targets, and in March 2016 the cities of London, Copenhagen, and Amsterdam committed to collaborate on a circular model for plastics). Country Ministers/Government Officials including *inter alia* the Ministry of Environment and Forestry of Indonesia, the Department of Environment and Natural Resources from the Philippines and, the Ministry of Natural Resources and Environment (MONRE) from Viet Nam. This will also include working at the local level with mayors and other government officials as well as at the national level with ministers and cabinet members and the like to build support for financial and policy commitments. Already we have ties on the ground with national leaders in our targeted geographies as well as local leaders from Jakarta, Manila, Dagupan, Angeles City, Bali and more. Public sector stakeholders: circular economy and innovation often rely on strong enabling framework before their successfully mainstreamed. Therefore, the government and public sector play a crucial role in correcting inherent market failures associated with sustainability and commercialization of new solutions through offering incentives and removing entry barriers. The project will rely strongly on the engagement and commitment of public sector stakeholders with the objective of promoting mainstreaming of closed material loops practices in policy planning and implementation.
Private sector	The global value chain alliance will Include plastics producers, packaging manufacturers, consumer good brands and retailers. So far, the Alliance partners include Amcor, Mars, Unilever and Veolia. The number of members will increase

Stakeholder	Role in Project
	over the course of the project. Involvement through Trash Free Seas Alliance® which represents a strong collaboration between industry, NGOs and the marine science community. Throughout this process, the project will engender a deep engagement from the Alliance steering committee including: reviewing research findings, and the development plan for the assessment; assisting with identifying appropriate projects and experts for contribution to the landscape analysis; reviewing the finance summit agenda; assisting in securing appropriate participation at the summit; and participation in developing and reviewing recommendations on options for an industry role. Specific stakeholders include: Companies (including SMEs and companies along targeted value chains) the organizations that work with them such as Sustainability, World Business Council for Sustainable Development, the International Chamber of Commerce, Business for Social Responsibility, Trucost, sector specific organizations such as International Council of Chemical Associations, Plastics Europe, and others as well as related regional and national bodies.
NGOs and CSOs	The Global Partnership on Marine Litter (described below) currently includes over 45 NGO partners (a list of the partners is in appendix 17). A growing number of NGOs in recent years have increased the pressure on plastic waste issues, and is expected to continue mounting pressure in the next three years. (e.g., 5Gyres, Plastic Pollution Coalition, Surfrider Foundation). Through the TFSA we are partnering with NGOs including World Wildlife Fund, the Marine Mammal Centre, Project AWARE, and Keep America Beautiful. Discussions are in progress with other NGOs e.g. Surfrider and NRDC to better understand their level of engagement and potential role. We also continue to build out local partnerships in the Asia-Pacific region where our work will focus. Examples include the Japan Environmental Action Network, Ecovision Asia, GAIA, and CARE. NGOs are important channels for disseminating the information circular economy and innovation as wells as providing system of check and balances on corporate performance. They can help to improve access to available knowledge and new approach being developed in this project especially focusing vulnerable segments of markets, such as SMEs and poor population. Therefore, their participation and knowledge about this project is important for its success. Moreover many international non-government organizations are the leads of a number of business orientated initiatives for promotion of sustainability, they will be included in designing and implementing project activities, offering their technical expertise, networks and support. NGOs will also be a very important channel to mobilize the consumers' community through awareness raising campaigns and other initiatives.
After-use actors (cities and	These have a direct financial incentive to create a working after-use economy and increase the value of after-use plastics.

Stakeholder	Role in Project
companies involved in after-use collection, sorting, reprocessing).	Waste management expertise including, resource economists, solid waste management practitioners, and technology and design infrastructure specialists to help us shape pragmatic and scalable solutions
Academics and technical institutions	Leading researchers in the field of marine science, which is important as we highlight emerging science to increase public awareness on this issue. Industry intermediaries including RECP (resource efficient and cleaner production) service providers and similar institutions play an important role in guiding and enabling business community in their sustainability path through bringing the gaps between scientific knowledge, technological advances, and skills and expertise and their practical application. Their role in engaging with SMEs along the plastics value chain and influencing the policy making to support their sustainability efforts of companies will be essential for the project's implementation. Additional intermediaries include: innovation and related centres, Life Cycle Networks (e.g., those linked to the LCI SETAC initiative); universities, technology development institutions, standard setting bodies, and groups carrying out market analysis.
Investment and Financial Experts	There is a wealth of experience in project finance in our target countries. Some of it is found in the commercial and development banks, some in government, some with waste management technology providers and project developers. The following are examples of the entities we will engage: The Closed Loop Fund, Encourage Capital, and the International Institute for Sustainable Development (IISD
Inter-governmental and UN Agencies	APEC, the World Bank, the GEF, UN Environment. These entities can help facilitate engagement with the right national-level leadership while contributing expertise and problem-solving. UN Environment, FAO, IMO, UN Global Compact (GC), UNIDO, UN ILO, UN Conference on Trade and Development (UNCTAD), OECD, etc. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, coordinated by UN Environment is the only global intergovernmental mechanism directly addressing the connectivity between terrestrial, freshwater, coastal and marine ecosystems. It facilitates global action on marine litter (one of its three priority pollution categories – the others being nutrients and wastewater), including through the work of the GPML (see below).
Multi-stakeholder platforms	The Global Partnership on Marine Litter (GPML) is a multi-stakeholder partnership coordinated by UN Environment under the GPA, which seeks to protect human health and the global environment through the reduction and management of marine litter. It provides a forum for governments, inter-governmental organizations, non-governmental organizations, businesses, and academic and research institutions to share information and coordinate efforts

Stakeholder	Role in Project
	to address this global problem. [An updated membership list will be provided.]

4. Gender Equality and Women's Empowerment. **Are gender equality and women's empowerment taken into account (yes ☒ /no ☐)? If yes, elaborate how it will be mainstreamed into project implementation and monitoring, taking into account the differences, needs, roles and priorities of women and men.**

119. Currently, there is no robust body of knowledge exploring the gender dimension of reducing marine plastic and scaling up waste management as it relates to ocean plastic. The need to further explore the gender dimensions has been raised at global level meetings, including at the recent UNEA meeting in Nairobi. Examples of considerations from a gender perspective might include dynamics around livelihoods, including how women are situated in the waste picking economy, as well as how they might benefit (or not) as part of an evolving waste collection labour force (for instance, vulnerability to stigma, workplace violence and/or economic benefits that may be realized). As one example, Ocean Conservancy's ICC Coordinator in Kenya, Watamu Marine Association, has created a recycling infrastructure to address debris and mismanaged plastic waste. Their business model specifically includes women and children because these groups were the most impoverished in the community. They are now called the "Blue Group" and it has been a successful enterprise. Women's roles in fisheries and fishery management may be considered, as may overarching health impacts of a reduction in plastic toxicity (reproductive, endocrine, etc.), which are not currently well understood.

120. It may also be useful to consider the ways in which violence against women is more prevalent in places where ecosystems are under stress. Poor and vulnerable groups including women in many developing country contexts are disproportionally affected by the consequences of unstainable management of natural resources and ecosystems. For WM in particular, it would be interesting to advance knowledge around gender differences in the perception of waste. Component 2, will engage a consultant to identify the most pressing gender relevant dimensions to this work, and make recommendations about future research priorities for the field as well as about the most effective ways to add gender mainstreaming to this project itself. The output will likely be a white paper/set of actionable recommendations covering these themes.

121. UN Environment is coordinating the development of a study (undertaken by the organization Women in Europe for a Common Future) focusing on the inter-related issues of gender, chemicals and plastics. The report will be an important resource to inform the development of Component 3 both for the identification of hotspots, key stakeholders, governance frameworks, initiatives and knowledge gaps (Outcome 3.1), and for the development of roadmap for GEF-7 to engage in the issue of reducing ocean plastics (Outcome 3.2).

5. Benefits. **Describe the socioeconomic benefits to be delivered by the project at the national and local levels. Do any of these benefits support the achievement of global environment benefits (GEF Trust Fund) and/or adaptation to climate change?**

122. The expected socioeconomic and environmental benefits of Components 1 (e.g., creating an effective after-use plastics economy; drastically reducing the leakage of plastics into natural systems and other negative externalities; and decoupling from fossil feedstocks) and Component 2 (e.g., increasing fishing opportunities, lessening navigational hazards for shipping, reducing the cost to clean-up beaches and waterways, improving aesthetic damage which has led to lost tourism income, as well as the range of socioeconomic benefits of bringing waste management to scale) will be captured in Component 3, both in the initial analysis and in the development of the roadmap.

123. Component 3 will also identify and analyse additional benefits which may not be fully addressed in the first two components, for example:

- The potential socioeconomic benefits of actions such as the application of Sustainable Chemistry approaches at the production level, including health benefits to producers and consumers from a more environmentally- and health-sensitive approach, and green job creation opportunities;
- Reduction in human health risks associated to plastics, such as the spread of mosquito-borne diseases and the potential for exposure to harmful chemicals through the ingestion of microplastics accumulated through the seafood chain, or through the manufacture, use and disposal of plastics containing harmful additives),
- The benefits of applying a holistic, life cycle approach to understand and design a circular economy, such as avoiding unintended trade-offs that could lead to other impact areas such as toxic emissions affecting human health or ecosystems, or climate change.

124. In summary the socioeconomic benefits of reducing marine plastics include:

- Reduced potential impacts on human health.
- Increased fishing opportunities due to less time spent cleaning debris from nets, propellers and blocked water intakes and improvements in other dimensions of subsistence livelihoods. It has been estimated that the damage from marine debris on fishing, shipping and tourism industries in APEC region is US $1.265 million annually. For countries that value their fisheries economy, there are other payoffs: higher quality and productivity of the catch, as well as reduced maintenance cost of fishing equipment.
- Reducing marine debris should lessen the ongoing navigational hazards for shipping, which includes increased transit time and stranded vessels due to fouled propellers.
- Reduction in the cost to cleanup beaches and waterways, which have been increasing significantly in recent years.
- Improvement in the aesthetic damage caused by marine plastics, which currently affects the public's perception of the quality of the environment potentially leading to lost tourism income.
- The systematic collection of waste (including plastics) in places where there currently is little collection or infrastructure to do so comes with multiple social, economic and public health benefits. Building the capacity to support the systematic collection of plastics and other waste can create income for the poorest, reduce public health risks, improve local fisheries and promote tourism — all while promoting material reuse and recovery.

- Improved waste management helps reduce environmental hazards linked to open dumping, such as contaminated drinking water and the proliferation of vector species for diseases. Reducing these hazards in turn reduces associated healthcare costs associated with treatment.
- Not having a solid waste collection service has a direct health impact on residents, particularly children. The uncontrolled burning of waste creates particulate and persistent organic pollutant emissions that are highly damaging locally and globally. Accumulated waste and blocked drains encourage vectors to breed, resulting in the spread of cholera, dengue fever and other infectious diseases and are a major contributing factor to flooding. Uncontrolled dumpsites, and in particular the mixing of hazardous and other wastes, can cause disease in neighbouring settlements as well as among waste workers.

125. These are just some examples of the issues that will be analysed under Component 3 to be able to strategically address the areas for highest potential value for GEF-7 engagement

6. *Risks.* Indicate risks, including climate change, potential social and environmental future risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks:

Risk Statement	Risk Level	Risk Mitigation Strategy
Risk of rejection/push-back from environmental NGOs and other entities if the development of the roadmap is perceived to lean towards end-of-pipe, short-term approaches to ocean plastics (e.g. waste management), rather than prevention at the source.	**High**	This risk will be mitigated follow a data driven approach that evaluates and identifies appropriate strategies for significant impact. Further mitigation action will include clearly stating the need for action on improving waste management as an urgent, short-term approach, while simultaneously developing and highlighting sustainable, upstream solutions that adequately consider the need to tackle issues such as the overconsumption of plastics (e.g. single-use plastics), and the socioeconomic impacts of plastics at the production and consumption levels (e.g. human health impacts).
Policies only developed but not implemented, which can be a risk as low policy implementation and enforcement will weaken the incentive structure for businesses to innovate and search for competitive differentiation through sustainability.	High	To ensure policy recommendation(s) uptake, selection of national technical institutions will review policy context and ongoing monitoring of activity implementation to ensure government counterpart(s) ongoing engagement will be carried out
Lack of investment can prevent or limit innovation to niche markets.	Medium	Ensure the SMEs at national level are part of the supply chains of larger companies, who have greater access to financing
Limited interest raised in developing countries as the work being perceived as reflecting a developed world and wealthy society agenda for the uptake of their technology and expertise and also introducing trade barriers with additional, technical requirements that developing country and small producers	Medium	Inform on the implications of this project for all companies along the value chain and disseminate existing best practices. Create a common understanding that the work will be conducted with due consideration of local needs and conditions whilst at the same time making clear – through sound scientific evidence – that user demand, consumption and lifestyles is an environmental, human health and socio-economic issue in all

may have difficulties in meeting in competitive markets.		societies.
Lack of industry or key corporations' engagement	Low to Medium	Engage corporations in early, principled dialogues that highlight their opportunity to be proactive in constructing solutions prior to inevitable mandates by government. Should this approach cease to work we will look for the appropriate means to apply pressure to resistant companies.

***7. Cost Effectiveness*. Explain how cost-effectiveness is reflected in the project design:**

126. The project design (and future implementation) builds on the extensive baseline and co-financed activities that are being implemented by the three main partners. The $2 M USD catalytic GEF grant is essential to the levering of 10,932,645 in co-financing from the partners, delivering the overall co-ordination of this project and ensuring the project objective's focus – preparing recommendations for the GEF to address marine plastics – is met. In addition to these recommendations for the GEF Strategy, this project will also further activate attention and deliver potential solutions to enable regional and national authorities to further act to reduce plastic waste entering the marine environment.

127. The project management will also capitalise on the co-financed initiatives of EMF, OC and UN Environment, both helping with the day-to-day technical management and the generation of appropriate dissemination material focused at key stakeholders. These dissemination actions will help further raise awareness on the problems and potential solutions of marine plastic waste and will be co-ordinated via the PCU.

***8. Coordination.* Outline the coordination with other relevant GEF-financed projects and other initiatives [not mentioned in 1]:**

128. The project will co-ordinate with on-going initiatives through partners and other organisations as indicated in the baseline. In addition, the project will make links to planned and on-going GEF initiatives that have global, regional or national relevance. The project will also work closely with the STAP to identify pipeline projects that could benefit from this work as well as seeking their advice with respect to the topic of marine plastics.

129. Relevant GEF projects that this project will co-ordinate with are likely to include:

130. To date marine debris, which largely consists of plastics, has been indirectly addressed through GEF Chemical & Waste focal area to reduce the release of POPs from manufacturing of plastics, and the unsound waste management and recycling practices. Relevant projects include:

- Project "Reducing Releases of Polybromodiphenyl Ethers (PBDE) and Unintentional Persistent Organic Pollutants (UPOPs) Originating from Unsound Waste Management and Recycling Practices and the Manufacturing of Plastics in Indonesia

(5052 -Indonesia/UNDP), targeted the reduction of PBDEs and UPOPs releases originating from the manufacturing of plastics as well as unsound management and recycling practices.

- Project "Development and Implementation of a Sustainable Management Mechanism for POPs in the Caribbean" (5558 -Caribbean/UNIDO), aimed at the development and implementation of a sustainable management mechanism for POPs in the Caribbean. This project has been undertaken in order for these recipient countries to meet their obligations under the Stockholm convention on POPs. After creating a regulatory and institutional framework and capacity building for POPs monitoring, the conducted activities take place **at the disposal level,** by improving poor waste management practices in landfills.
- Project "Integrated Environmental Management of the Río Motagua Watershed" (9246 -Guatemala and Honduras/UNDP), looks to improve the integrated management of the Río Motagua watershed that is shared between Guatemala and Honduras and reduce land-based sources of pollution and produced emissions from U-POPs, to mitigate impacts on coastal-marine ecosystems and the livelihoods of the local populations.
- Project "Guidance development and case study documentation of green chemistry and technologies" (9373 -Global/UNIDO), is a MSP supporting Green Chemistry in order to reduce the use of hazardous chemicals throughout the industrial life cycle. The main objective of this project is to increase global awareness and capacities on Green Chemistry approaches for the design of products and processes that carry environmental benefits throughout their lifecycle.

131. The project will obviously work closely with GPA/GPML, and throughout the project will co-ordinate with GEF IW:LEARN to ensure experiences and lessons are available to the wider GEF IW portfolio.

9. Institutional Arrangement. **Describe the institutional arrangement for project implementation:**

132. The UN Environment/GEF Project 'Addressing Marine Plastics – A Systemic Approach' will be implemented through UN Environment as the GEF Agency and executed with the support of key stakeholders under the lead of EMF and OC. Targeted technical assistance will also be provided by UN Environment through its Global Partnership on Marine Litter (GPML) and its Responsible Industry and Value Chain (RIVU) Unit within its Sustainable Lifestyles, Cities and Industry (SLCI) Branch. The project will have oversight through a Project Steering Committee (PSC).

133. Ellen MacArthur Foundation (EMF), Ocean Conservancy (OC), UN Environment (GPML/RIVU/SLCI) will work under the overall co-ordination of the PCU and their work programme, budgets and outputs will be subject to oversight by the Project Steering Committee.

134. On a day-to-day basis, the Project Co-ordination Unit (PCU)/Project Manager will co-ordinate the activities of the three project components and ensure that the objective and time-line is adhered to, under the direct supervision of the PSC and the GEF Implementing Agency.

The relationships for management and reporting are indicated in Figure 01

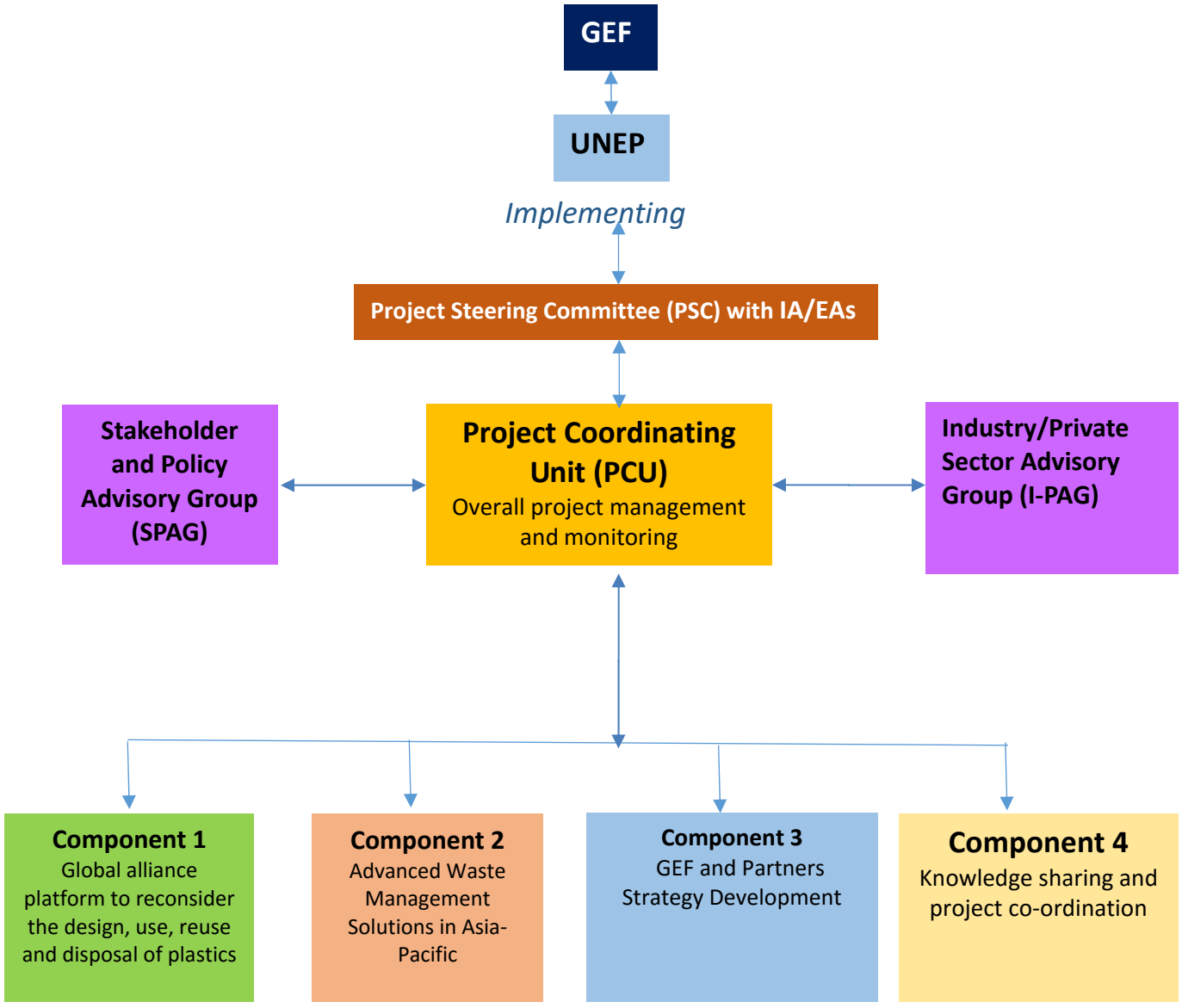


Figure 01 Project Implementation Arrangements

135. The Project Steering Committee will meet every 6 months (via video conferencing) and face to face every 12 months at a mutually agreed location. Key project partners (UN Environment, EMF, OC) will be joined by observers (including, for example, the GEF Secretariat, industry, civil society, GPML, academic and governmental representatives) as agreed by the first PSC meeting. The first

PSC meeting will also confirm the duties and responsibilities of the committee, which are likely to include: oversight of budget, reports (management, including PIRs, quarterly, etc., project output and financial reports), annual workplans, etc. The PCU will provide the secretariat to the PSC.

136. The Project Co-ordination Unit/Project Manager will be responsible for day-to-day management and execution and will work closely with the project partners to ensure that the objectives and outcomes of this project are achieved and delivered according to an agreed workplan. The PCU will report to the GEF Agency (UN Environment) and the PSC, providing all necessary and planned reports as required. The PCU will work with the project partners to ensure smooth implementation and integration of the project. The PCU will ensure communication with other relevant offices and programs within UN Environment, and will be responsible for co-ordinating external communication on the project (including the website). A project manager will be hired by UN Environment to oversee the coordination of all three components. Draft Terms of Reference for the PCU are found in Appendix 11.

137. Two Advisory Groups will be formed to advice on scientific and technical issues (STAG) and industry related issues. They will be composed of both partner and external experts/representatives to provide advice on direction and outputs to the PSC, PCU and project partners.

138. The basic overall structure of the project components and cross-cutting project management activities is shown in appendix 10

10. Knowledge Management. **Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.**

139. The project will prepare a wide range of publications, briefing papers, guidance documents etc., for an extensive range of global, regional, national and local stakeholders. Each component, managed by one of the partners, will have responsibility for preparing the outputs (as detailed in Section XX) under the co-ordination of the PCU who will be responsible for the maintenance of the project website.

140. The PCU will also prepare a concise communications and knowledge management strategy that will be submitted to the first PSC meeting for adoption. This will set the overall programme for communications for the project, including the need for ensuring appropriate recognition of the GEF, UN Environment and partners' involvement.

141. In addition, the project will ensure consistency with the GEF IW: LEARN webpage design and prepare outreach material appropriate for catalysing replication in other GEF IW projects (e.g. through Experience Notes, participation at GEF IW Conferences, etc.)

11. Consistency with National Priorities. Is the project consistent with the National strategies and plans or reports and assessements under relevant conventions? (yes ☐ /no☐). If yes, which ones and how: NAPAs, NAPs, NBSAPs, ASGM NAPs, MIAs, NCs, TNAs, NCSA, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

142. The need to address land-based sources of marine debris, as well as the need to improve and increase investment in waste management in Asia Pacific countries has been established at the global, regional, and national levels.

143. At the global level the UN Sustainable Development Goal 14 focuses on oceans, with target 14.1 specifically calling to "prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution" by 2025.

144. This is further supported at the global level by:

- In May 2016, UN Environment hosted the second UN Environmental Assembly, which led to a resolution on marine plastic litter (UNEP/EA.2/L.12/ Rev.1) that notes the increased knowledge regarding the levels, sources, negative effects of, and possible measures to reduce marine plastic litter and microplastics in the marine environment, and recognizes the importance of cooperation between UN Environment and the relevant conventions and international instruments. Further the resolution calls on governments at all levels to further develop partnerships with industry and civil society and the establishment of public-private partnerships, and to organize and participate in annual campaigns for awareness-raising, prevention and environmentally sound clean-up of marine litter.
- In 2015 UN Environment released the Global Waste Management Outlook, which articulated a goal to ensure access for all to adequate waste collection services; elimination of uncontrolled dumping and burning; and environmentally sound management of all waste by 2030'.

145. At a regional level APEC has highlighted both marine debris and improved waste management as regional priorities for APEC economies. This is supported by:

- On July 13, 2014, the Chemical Dialogue approved the formation of a Virtual Working Group in collaboration with the Oceans and Fisheries Working Group (OFWG) to promote innovative solutions to the issue of marine debris particularly through a focus on sustainable land-based waste management. The APEC Ministers stated: 'We…welcome efforts to ensure sustainable use and management of marine resources through initiatives such as the joint OFWG/Chemical Dialogue Virtual Working Group on Marine Debris' 2015 Work Plan' and 'We welcome projects to assess and demonstrate technology deployment for urban waste management that also include the recovery of economic worth from solid waste.'
- The APEC Leaders stated: "We therefore welcome the work of our officials to discuss the challenges of rapid urbanization in APEC, including innovative ways of addressing waste management and water-related challenges'.
- UN Environment's Regional Seas Programme, the Coordinating Body of the Seas of East Asia (including Indonesia, Vietnam, and the Philippines) issued a review and regional action plan for addressing marine litter in the region in 2008. The action plan identifies addressing land based sources of marine litter, including specifically through improved waste management as a key action area. In addition, the action plan called for support for the development of action plans at the national level.

146. At the national level,

- Indonesia, Vietnam, and the Philippines, all have national policies and plans prioritizing waste management.
- The Philippines released a National Solid Waste Management Strategy for 2012-2016, which identified strategic issues and gaps that needed to be addressed to implement the National Solid Waste Management Framework, RA 9003. These include policy gaps, good governance, integration of the informal waste sector, strategies to address climate-change implications for solid waste management systems, sustainable financing, and creating economic opportunities.
- Indonesia also has a national waste management policy established in 2008 by the Act of the Republic of Indonesia Number 18. That act established that the objective of management of waste is to increase public health and environmental quality as well as to utilize waste as an energy source. In addition, it identified the following (article 5) as tasks for government a. developing and increasing the public awareness on waste management, including:
    - Conducting research, developing technology for reducing and handling of waste;
    - Facilitating, developing, and conducting efforts to reduce, handle, and utilize waste;
    - Carrying out waste management and facilitating in providing the facility and infrastructure for waste management;
    - Encouraging and facilitating the enhancement of the benefit of waste management outcome;
    - Facilitating the application of specific local technology that developed in the local society in reducing and handling of waste; and
    - Conducting coordination amongst government institutions, society, and industry towards an integrated waste management.
- A report on the National State of the Environment in Vietnam in 2011 identified key recommendations for improving Vietnam's waste management structure, including:
    - Needing to diversify the financial investment resources for solid waste management from state budget, VEPF, local VEPFs, private sectors, social communities;
    - Encouraging residents to change behaviour, develop environment-friendly lifestyle; and
    - Reviewing and assessing the effectiveness of the legal system in solid waste management, then proposing measures for improving and making a perfect, consistent and comprehensive system.

12. M & E Plan. **Describe the budgeted monitoring and evaluation plan.**

147. The project will follow UN Environment standard monitoring, reporting and evaluation processes and procedures. Substantive and financial project reporting requirements are summarized in Appendix 07. Reporting requirements and templates are an integral part of the UN Environment legal instruments to be signed

148. The project M&E plan is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Appendix 04 includes Specific, Measurable, Achievable, Relevant and Time-bound (SMART) indicators and targets for each expected outcome. These indicators along with the key deliverables and benchmarks included in Appendix 06 will be the main tools for

assessing project implementation progress and whether project results are being achieved. M&E related costs are presented and are fully integrated in the overall project budget.

149. The M&E plan will be presented to the first meeting of the Project Steering Committee (PSC) to ensure project stakeholders understand their roles and responsibilities vis-à-vis project monitoring and evaluation. The PSC will be responsible for proposing to UN Environment management any necessary amendments to the M&E plan during project implementation. Indicators and their means of verification may also be fine-tuned by the PSC. Day-to-day project monitoring is the responsibility of the PCU but other project partners will have responsibilities to collect specific information to track the indicators. It is the responsibility of the Project Manager to inform the UN Environment Task Manager of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.

150. The PSC will receive periodic reports on progress and will make recommendations to UN Environment concerning the need to revise any aspects of the Results Framework or the M&E plan. Project oversight to ensure that the project meets UN Environment and GEF policies and procedures is the responsibility of the UN Environment Task Manager. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

151. The UN Environment Task Manager will develop a project supervision plan at the inception of the project, which will be communicated to the project partners during the first meeting of the PSC. The Project Co-ordinator will also be responsible for initial screening of the financial and administrative reports from the core partners prior to their submission to the Finance and Management Divisions of the United Nations Office at Nairobi. Progress vis-à-vis the delivery of agreed project outputs will be assessed by the PSC and endorsed by the PSC at least annually. Project risks and assumptions will be regularly reviewed both by project partners and the PCU on behalf of UN Environment. Risk assessment and rating is an integral part of the annual Project Implementation Review (PIR), preparation of which will be the responsibility of the Project Manager. The quality of project monitoring and evaluation will be reviewed and rated as part of the PIR, which will be approved by the PSC. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

152. An independent terminal evaluation will take place at the end of project implementation in accordance with UN Environment and GEF procedures. The Evaluation Office of UN Environment will manage the terminal evaluation processes.

153. The GEF IW Tracking Tool is attached as Appendix 14. This will be established at the start of the project, and updated at mid-term and at the end of the project. The Tracking Tool will be made available to the GEF Secretariat along with the project PIR report.

154. Indicative M&E activities and responsibilities are shown below. Further details can be found in Appendix 07.

Table 01: *Indicative M&E activities and responsibilities*

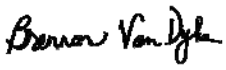
Type of M&E activity	Responsible Parties	GEF Budget US$	Time frame
Inception Workshop, annual PSC and final workshop	PCU Project Partners PSC UN Environment T Task Manager	75,000	Within first 3 months of project execution, and annually
Inception Report	PCU Project Partners PSC UN Environment Task Manager	None	Immediately following inception workshop
Measurement of indicators set in the Project Results Framework	UN Environment Task Manager Project partners in collaboration with PCU	None	Annually prior to APR/PIR and to the definition of annual work plans
APR and PIR	PCU UN Environment Task Manager	None	Annually
Periodic status reports	PCU	None	To be determined by PCU, UN Environment and EA
Technical Advisory Committees	To be agreed during project inception. PCU/Project Partners	50,000	Annually
Terminal External Evaluation	Evaluation Team PCU UN Environment Task Manager PSC (provides endorsement) External Consultants	50,000	At the end of project implementation
Terminal Report	PCU/Partners PSC UN Environment Task Manager	Included in component costs	At least one month before the end of the project
Lessons learned	PCU/Partners UN Environment Task Manager	None	Yearly as part of the APR
Audit	UN Environment Task Manager PCU Partners' accredited auditors	8,000	Yearly
TOTAL indicative COST		**183,000**	

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. Record of Endorsement[21] of GEF Operational Focal Point (S) on Behalf of the Government(S): (Please attach the *Operational Focal Point endorsement letter(s)* with this template. For SGP, use this SGP OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*

B. GEF Agency(ies) Certification

This request has been prepared in accordance with GEF policies[22] and procedures and meets the GEF criteria for a medium-sized project approval under GEF-6.					
Agency Coordinator, Agency name	**Signature**	**DATE** *(MM/dd/yyyy)*	**Project Contact Person**	**Telephone**	**Email Address**
Brennan Van Dyke Director, GEF Coordination Office, UN Environment		April 20, 2017	Isabelle Van der Beck Task Manager	+1-202-974-1314	Isabelle.vanderbeck@unep.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION *(Applicable only to newly accredited GEF Project Agencies)*

For newly accredited GEF Project Agencies, please download and fill up the required **GEF Project Agency Certification of Ceiling Information Template** to be attached as an annex to this project template.

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).
Please refer to Appendix 4 for the detailed results framework for this project

ANNEX B: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used**)**

[21] For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.
[22] GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF, and CBIT

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)