EN

ANNEX 1

of the Commission Implementing Decision on the 2018 Annual Action Programme for the Partnership Instrument

Action Fiche for reducing plastic waste and marine litter in East and South East Asia – supporting a transition to a circular economy in the region

1. IDENTIFICATION

Title of the action	Reducing plastic waste and marine litter in East and South East Asia – Supporting a transition to a circular economy in the region
Country(ies)/ Region	China, Indonesia, Japan, the Philippines, Singapore, Thailand and Vietnam (indirectly also countries in the Mekong Region and in the rest of the Association of Southeast Asian Nations (ASEAN))
Total cost	Total estimated cost: EUR 9 000 000 Total amount of the EU budget contribution: EUR 9 000 000
Total duration1	36 months
Method of implementation	Indirect management

Markers (from CRIS DAC form)		Not targeted	Significant objective	Main objective
Rio Convention Markers	Biological diversity	☐	☑	☐
	Combat desertification	☑	☐	☐
	Climate change mitigation	☐	☑	☐
	Climate change adaptation	☑	☐	☐
General policy objective	Aid to environment	☐	☐	☑
	Gender equality	☑	☐	☐

[1] Maximum duration of the operational implementation period of the contract(s).

	Trade Development	☐	☑	☐

2. RATIONALE AND CONTEXT

2.1. Summary of the action and its objectives

The action aims to strengthen the cooperation of the EU with selected countries in East and South East Asia, indirectly including the Mekong Region and ASEAN, to jointly implement actions that will address sustainable consumption and production of plastic, including waste management aspects and prevention of plastic waste entering into the marine environment, via a set of activities that will support a transition towards a more circular economy, in line with the EU Circular Economy Action Plan[2] and the EU Plastic Strategy[3].

Bearing in mind the overall context provided by the 2030 Agenda for Sustainable Development and its Sustainable Development Goals, this action is to contribute to the international objectives of the EU Plastic Strategy in the context of the EU Circular Economy Action Plan and the International Ocean Governance Communication[4]. In line with the EU Plastic Strategy, this action will support a transition to sustainable consumption and production of plastic in East and South East Asia, particularly concerning waste prevention and management (waste hierarchy, extended producer responsibility), including for fisheries and aquaculture, addressing micro-plastic (intentionally added and as a result of wear and tear), and favouring green public procurement.

This action will support bilateral policy dialogues with relevant countries / regions (e.g. ASEAN) on e.g. trade, environment, aquaculture and fisheries, and exploit the opportunities they offer for promoting sustainable consumption and production of plastic and prevent marine litter. While the action is not targeting ASEAN per se, it will involve the ASEAN Chair[5] and the ASEAN Secretariat[6] in relevant activities, as well as the Mekong River Commission[7] and the responsible authorities for the catchment areas of the six rivers in the region that researchers have concluded bring the vast majority of land-based litter to the oceans[8].

2.2. Context

2.2.1. The policy context

Governments, industry and the civil society worldwide increasingly recognise that the linear model of economic growth, on which they often relied in the past, or still rely, is unsustainable from an economic, environmental and social perspective and that they cannot build their future on a "take (natural resources)-make-dispose" model. The EU has an

[2] COM(2015) 614.
[3] COM(2018) 28 and SWD(2018) 16, available under http://ec.europa.eu/environment/waste/plastic_waste.htm.
[4] JOIN(2016) 49.
[5] http://asean.org/asean/asean-chair/.
[6] http://asean.org/asean/asean-secretariat/.
[7] http://www.mrcmekong.org/.
[8] Christian Schmidt, Tobias Krauth, Stephan Wagner. Export of Plastic Debris by Rivers into the Sea. Environmental Science & Technology, 2017; DOI: 10.1021/acs.est.7b02368, http://pubs.acs.org/doi/abs/10.1021/acs.est.7b02368.

ambitious Circular Economy Action Plan[9] in place to stimulate Europe's transition towards a circular economy and to boost the EU's competitiveness, foster sustainable economic growth and generate new jobs.

Circularity explores opportunities to promote closed material loops and resource efficiency chains with a system-wide approach and across the entire value chain. This concept implies designing products for reuse, recovering as much as possible from resources while in use, using products as long as possible, remanufacturing products at the end of service life, and in essence avoiding waste in production and supply. Such an approach, facilitated and driven by enabling policy frameworks, and supported by responsible choices and use by consumers (which includes governments, companies and individuals), can support equity, resource security, sustainability and job creation. They can also galvanise and spur green investments, partnerships and continued innovation. While environmentally sound waste management including recycling play a central role to close the loop of product lifecycles, they need to be complemented with actions that contribute to using resources more efficiently, by cutting resource use (and producing more with less) and by reducing waste. An integrated, comprehensive approach is required, with the involvement of the whole supply chain, the governments and the general public, adopting through circular product design and consumer behaviour, innovative business circular models and services.

The circular approach is not only relevant for established economies. All governments are facing the challenge of addressing unsustainable patterns of consumption and production. Moving towards a circular economy is essential for all governments to meet the Sustainable Development Goals (SDGs) amid growing scarcity of natural resources and growing urban-populations, with a rising income and increased consumption through increase in purchasing power. The EU Circular Economy Action Plan underlines the importance of the global dimension and states that the Commission will co-operate closely with international organisations and other interested partners as part of the global efforts to implement the 2030 Agenda and to reach the SDGs. There a number of SDGs that are of relevance in the context of circular economy, waste management and marine litter, including SDG 6 ('Ensure availability and sustainable management of water and sanitation for all'), SDG 8 ('Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all'), SDG 12 ('Ensure sustainable consumption and production patterns'), SDG 13 ('Climate Action') and SDG 14 ('Conserve and sustainably use the oceans, seas and marine resources for sustainable development'). Of particular importance and relevance to this action, is Target 14.1, which states: 'By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution'. Therefore, a transnational and international effort is required to address marine litter and the factors aggravating the situation.

Increased recognition of the need to improve resource efficiency and address marine litter at the global level is also coming from the G7 and the G20[10]. The 2015 G7 Summit[11] launched the G7 Alliance on Resource Efficiency and the G7 Action Plan to Combat Marine Litter.

[9] Commission Communication 'Closing the loop - An EU action plan for the Circular Economy' (COM(2015) 614). See: http://ec.europa.eu/environment/circular-economy/index_en.htm.
[10] China, Indonesia and Japan are G20 members. Japan will hold the G20 Presidency in 2019.
[11] https://www.g7germany.de/Content/EN/_Anlagen/G7/2015-06-08-g7-abschluss-eng_en.html?nn=1282190.

Concerning the G20, the 2017 Summit[12] launched the G20 Resource Efficiency Dialogue and the G20 Action Plan on Marine Litter.

2.2.2. The EU Plastic Strategy

Plastic has been identified by the European Commission as a key priority in the Circular Economy Action Plan given its importance in the European economy. Increasing its *'circularity'* can bring new opportunities for innovation, competitiveness and job creation. Plastic materials can also help us face a number of future sustainability challenges. Yet, there is urgent need to address the environmental problems that today cast a long shadow over plastics use and consumption. The million tonnes of plastic litter ending up in the oceans every year are one of their most visible and alarming manifestation, and causing growing concerns among citizens.

Rethinking and improving the functioning of such a complex value chain requires efforts and greater cooperation by all its key players, from the petrochemical industry to recyclers. It also requires innovation and a common vision to drive investments in the right direction. These are the primary goals of the EU Plastic Strategy, which presents key commitments for action at EU level. The Strategy notes that international engagement will be necessary to drive change outside Europe's borders. Through decisive and concerted efforts, Europe can turn challenges into an opportunity and set the example for resolute action at global level.

2.2.3. The problem

The global production of plastic material has increased twenty-fold in the past fifty years, exceeding 300 million tonnes in 2015[13] and it has doubled between 2013 and 2015. Plastics are used in many sectors and industries, including food products, health care, construction, transportation, telecommunications, fishing and consumer goods[14]. Packaging accounts for most of plastic use and production, representing 40% of demand in Europe and 42% in the United States[15].

Per capita plastic consumption has reached 100 kg in Western Europe and North America; Asia currently uses just 20 kg per person, but this figure is expected to grow rapidly[16] - as Asian economies are growing, the use of plastics would inevitably increase, if redress actions are not implemented. Plastics production in Asia in 2013 accounted for 45.6 % of global plastics, while China alone produced nearly a quarter of world's plastic.

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[12] https://www.g20.org/Webs/G20/EN/G20/Summit_documents/summit_documents_node.html.

[13] Plastics Europe, Plastics – the Facts 2015 – An Analysis of European plastics production, demand and waste data.

[14] The European House-Ambrosetti, *The Excellence of the Plastics Supply chain in Relaunching Manufacturing in Italy and Europe* (Milan: 2013); UN Environment, *Valuing Plastics: the Business Case for Measuring, Managing and Disclosing Plastic Use in the Consumer Goods Industry* (Nairobi: 2014)

[15] Germany Trade & Invest, Industry Overview: the Plastics Industry in Germany (Berlin: 2014); Plastics Europe, Plastics Europe, Plastics – the Facts 2015 – An Analysis of European plastics production, demand and waste data; American Chemistry Council, Economics and Statistics Department, *Plastic Resins in the United States* (Washington, DC: 2013).

[16] Vital Signs (2015), Global Plastic Production Rises, Recycling Lags (http://vitalsigns.worldwatch.org/sites/default/files/vital_signs_trend_plastic_full_pdf.pdf).

A recent assessment concludes that 79% of the plastic waste generated since the beginning of plastic production has accumulated in landfills or the natural environment[17], with uncontrolled disposal still being a major problem, predominantly in developing countries[18].

Marine litter, mostly composed of plastic items, is a symbol of a resource inefficient economy. Valuable materials are polluting our beaches and damaging our environment instead of being pumped back into our economy. Estimates on the basis of 2010 data suggest that annually 5 to 12 million tonnes of plastic find their way into the oceans[19]. Micro-plastics (generally defined as synthetic water insoluble plastic polymers of 5mm or less in any dimension) are of particular concern due to their potential toxicity and size, and consequent harm to the animals that ingest them. They get into the food chain and the drinking water. Used directly in products (such as industrial abrasives), fragmenting from larger pieces, or as fibres from washing clothes (and carried by sewage), micro-plastics are widespread in the marine environment. They can be intentionally added in products such as cosmetics and detergents or generated during use of products such as tyres and textiles or along the plastics production and supply chain i.e. plastic pellets. Although the consequences of plastic built-up in the food chain are not fully known, human-health concerns are also being raised, since many of the marine animals affected end up on our plates as seafood.

Poor waste water and rain drainage management are important sources of land-based marine litter. The majority of plastic marine litter comes from land-based sources with sea-based sources from shipping, cruise liners and fishing accounting for the remainder[20] (Table 1). It should be noted, that while the global quantity of plastic used in the fisheries and aquaculture industries is small in comparison to the quantities used in land-based industries, there is a greater risk that plastic from marine activities could become marine litter and some such litter (e.g. from fishing gear) is particularly harmful to marine life (e.g. through entanglement). Furthermore, for aquaculture, where installations are largely in ponds, most of potential littering is actually due to poor waste management and disposal, as in other economic sectors such as e.g. agriculture.

Table 1: Main sources of marine litter

Land-based activities	Sea-based activities
– Direct waste disposal by households – Land-fills and dumpsites located on the coast – Floodwaters and riverine transport of waste from landfills or other sources	– Vessels, from which gear or waste produced on-board is illegally dumped or lost: o Merchant shipping, ferries and cruise liners

[17] Geyer *et al.* (2017), Production, use, and fate of all plastics ever made, *Science Advances*, **3** (7), e1700782 (DOI: 10.1126/sciadv.1700782).

[18] According to Global Waste Management Outlook (2015), 2 billion people are still without access to solid waste collection, and 3 billion people lack access to controlled waste disposal facilities.

[19] Jenna R. Jambeck *et al.* (2015), *Plastic waste inputs from land into the ocean*, Science, **347** (6223), 768-771 (DOI: 10.1126/science.1260352). These data were based on models that in turn used assumptions that cannot be verified.

[20] While the figure of 80% for land-based sources is commonly quoted, it should be used with caution because there is a lot of variation in the composition of litter depending on the location (UNEP and GRID-Arendal (2016), Marine Litter Vital Graphics, p. 22).22) and litter from sea based sources dominates in some regions and compartments (e.g. Eriksen et al, 2014).

Land-based activities	Sea-based activities
along rivers and other inland waterways (canals), which are effectively pathways for marine litter, including primary microlitter – Industrial facilities (solid waste from landfills and untreated water) – Discharge from storm water drains (including occasional overflows) – Discharge of untreated municipal sewerage – Tourism (recreational visitors to the coast and beach goers, that are littering)	○ Fishing vessels including abandonment of illegal gear or gear used in illegal fishing as well as accidentally lost gear e.g. due to environmental / climatic conditions and intentionally discarded gear ○ Military fleets and research vessels ○ Leisure craft – Offshore oil and gas platforms – Aquaculture installations – Waterway recreational activities (such as diving and marinas)

While in many regions land-based sources predominate, sea-based litter goes directly into the sea. However, it is important to recognise that ultimately all debris originates from the land (be it from consumption, production or both) and that this is also where the solutions must be sought both in terms of end-of-life disposal and in terms of production, to reduce end-of-life impacts from the product design stage. This debris consists of a range of materials including plastic, metal, wood, rubber, glass and paper. Although the relative proportions of these materials vary between regional seas, there is clear evidence that plastics are numerically by far the most abundant type of litter.

Table 2. Types of marine plastic litter

Food and beverage packaging (bottles, disposable cups, straws, plastic caps/lids, bags etc.)
Smoking related items (disposable lighters, filters, cigar butts)
Manufacturing and transport related waste (pallets, plastic sheeting and straps)
Sewage related debris (sanitary towels, tampons, plastic cotton wool bud sticks)
Feedstock for plastic production (pre-production pellets and powders)
Abandoned, lost and otherwise discarded fishing gears (ALDFG)
Aquaculture gear (e.g. feedbags)

Focusing on plastics as a material type, the litter consists of a wide range of items with diverse sources (see Table 2). One component of marine debris is abandoned, lost and otherwise discarded fishing gears (ALDFG). Years ago, fishing nets and gear made of natural fibres were replaced with synthetic materials such as nylon, polyethylene, and polypropylene. Unlike the natural fibre, synthetic fishing gear is nearly impervious to degradation and, even if lost, abandoned, or discarded, will remain in the marine environment causing persistent damage.

2.2.4. The situation in East and South East Asia

2.2.4.1. General aspects

Over 50% of the global leakage into the marine environment currently comes from five emerging markets in Asia (see Figure 1).

Figure 1. Waste estimates for 2010 for the top 20 countries ranked by mass of mismanaged plastic waste (in units of millions of metric tons per year)[21]

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

*If considered collectively, coastal European Union countries (23 total) would rank eighteenth on the list

It should be underlined that the abovementioned study has intrinsic limitations (it is based on modelling only and does not take into account waste shipments). Moreover, marine litter is a global problem with shared responsibilities (for example historic responsibility of developed countries for the accumulated litter in the world's oceans) and the only long term solution is prevention of plastic waste and littering, and increased recycling rates.

While countries in the Asia-Pacific region are at different stages of economic development and local conditions vary, the waste management situation, especially in the least developed countries and in the rural areas of more developed countries (with the exception of Japan and Singapore), is generally characterised by the following:

- Inadequate collection systems, serving only part of the population.
- Hardly any systems for separate collection of plastic wastes, which makes recycling difficult. Separate collection is limited to fractions that are easily recyclable in particular polyethylene terephthalate (PET) bottles.
- Separate collection mainly takes place by the informal sector; the official waste collection system operated by the municipal authorities is underfinanced, inefficient and ineffective.

[21] Jenna R. Jambeck *et al.* (2015), *Plastic waste inputs from land into the ocean*, Science, 347 (6223), 768-771 (DOI: 10.1126/science.1260352). However, it shouldn't be forgotten that measurements of marine litter in waters of developed countries also show high concentrations, indicating this to be a widespread problem not confined to certain world regions alone.

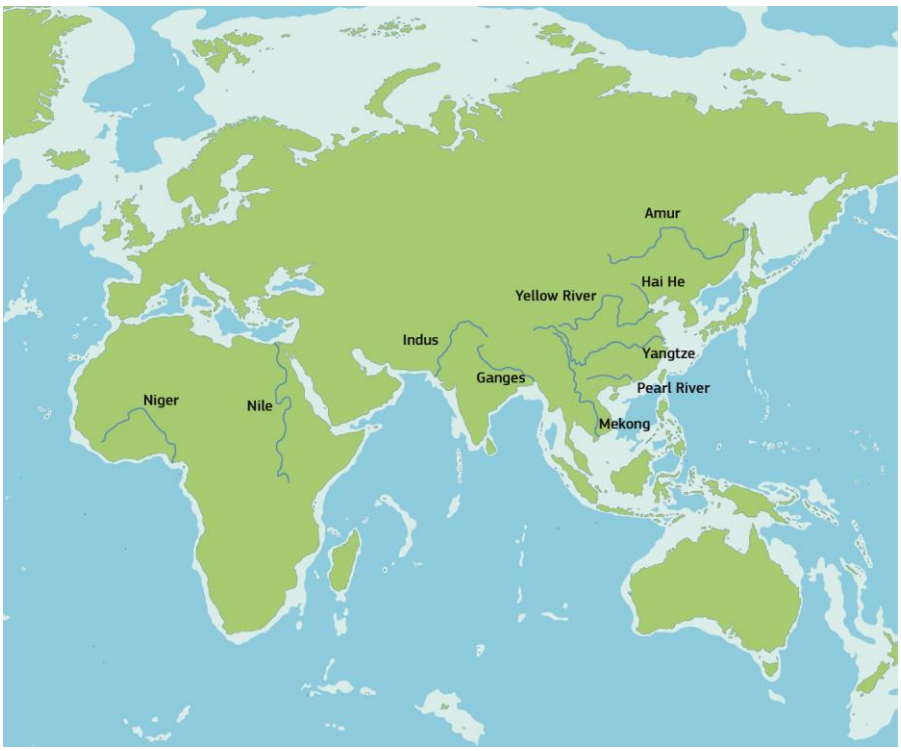
- A large dependency on landfilling, with landfills that are seldom more than open dumpsites.
- The local plastic recycling industries are underperforming due to lack of volume of home generated plastic waste of suitable quality. Their potential to contribute to the solution is therefore largely unexploited.
- The share of urban and rural population having access to improved sanitation facilities in ASEAN countries reached 80% and 63%, respectively, in 2012. Lower rates of access still exist in some ASEAN countries: less than 80% of the urban population has access to improved sanitation in Indonesia (71%) and in the Philippines (79%). Access of rural populations remains very low: 26% in Cambodia, 46% in Indonesia, 51% in Lao People's Democratic Republic, 67% in Vietnam. Thailand (96%) and Malaysia (95%) being exceptions[22].

  This is combined with a number of consumer habits in the selected countries. Consumers often appreciate goods to be over-packed e.g. associated with practical issues, notions of hygiene and progress/wealth and often make use of single use shopping bags. In some of the target countries there is a widespread culture of eating street food for which a lot of single use plastic items are being used that have come to replace traditional items largely based on plants. Moreover, littering such items seems not to be perceived as being a problem, due to widespread lack of awareness.

  To complete the picture, it should be added that, until the end of 2017, China has also been importing large amounts of EU/US plastic waste for recycling, putting extra pressure on its already strained waste management system.

[22] Guillermo Hernández, Sandra Planes Satorra, Carine Berny, Gijs Nolet and Lise Oulès, The environmental and economic benefits for the European Union of strengthening cooperation with the ASEAN region in the field of environment, Milieu Ltd, Final report to the European Commission, July 2015, p. 41.

Figure 2. The top-10 rivers for land-based contribution to marine litter[23]



The combination of inadequate waste management systems, poor wastewater and rain drainage management, lack of awareness and consumer habits results in a large fraction of the plastic that is being used in the society ending up in the environment and ultimately transported via rivers or at the sea shore into the ocean. Rivers from the 10 top-ranked catchments alone (see Figure 2) contribute the near totality of the land-based plastic debris and reducing plastic loads by 50% in the 10 top-ranked rivers would reduce the total river-based load to the sea by 45%.

It should be noted that six of the ten rivers identified lie in the region considered by this action, which is therefore very relevant in contributing to the prevention of waste in general and plastic waste in particular entering the oceans. These rivers are characterised by high population, and due to the large sizes, they transport a higher fraction of waste generated in their catchment areas than smaller rivers. Moreover, they flow through different municipalities, districts and states, with different environmental regulations and policies where downstream nations often have less control over the streamflow than upstream nations.

Only in Singapore and Japan the situation regarding waste management is different. In both countries, the system works efficiently, but waste incineration has obtained a very dominant position, hampering the development of recycling industries. In Singapore for instance the recycling rate for household waste is only 21%. Moreover, the situation is also changing in some of the selected countries for this action (e.g. China), where huge efforts and investments to improve their environmental performance, including for waste management and wastewater treatment, are underway.

[23] Source of the data: Christian Schmidt, Tobias Krauth, Stephan Wagner. Export of Plastic Debris by Rivers into the Sea. Environmental Science & Technology, 2017; DOI: 10.1021/acs.est.7b02368. Source of the map: European Commission.

2.2.4.2. Indonesia[24]

The Indonesian government is aware that waste management is a serious problem in the country and is willing to tackle the issue, notably under the health, fisheries and tourism perspectives. It is recognised that the priority is to improve local waste management, such that waste is properly monitored, collected and recycled, instead of being leaked to rivers and ocean. Generally, waste management could vastly be improved in Indonesia; the problem is recognised and there is also a willingness to tackle the issue. Main problems remain that:

- National and local authorities that are responsible for waste management (and other aspects of the circular economy) still lack technical capacities and expertise to properly address the issue;
- Fragmentation of responsibilities among ministries and lack of clarity about the distribution of responsibilities between the national, regional and local governments in a number of policy areas;
- Lack of awareness and education in the general public.

However, as part of their seven-pillar ocean policy, Indonesia has put in place an ambitious marine litter strategy based on an integrated circular economy approach focussing on three aspects sustainable plastics, second life solutions, behaviour change. The strategy identifies targets for waste reduction (30%), increased recycling (up from current 45% to 75%) and reduced plastic marine litter (70%) for 2025. It integrates clean up actions and social aspects such as free health insurance for waste pickers and is implemented in cooperation with local communities and schools.

The EU has ongoing high-level policies dialogues (under the Partnership Cooperation Agreement) on environment and on marine security, on a Copernicus Data Exchange Agreement (including marine data) and is negotiating a Comprehensive Economic Partnership Agreement (i.e. a Free Trade Agreement) which offer opportunities for working with Indonesia on the monitoring, prevention and mitigation of plastic and organic pollution.

The EU-Indonesia Joint Committee established a Working Group on Environment and Climate Change Policy in November 2016. The Working Group holds annual meetings to discuss issues of mutual interest related to environment and climate polices, such as biodiversity, wildlife trade and trafficking, sustainable forest landscapes (including palm oil and combatting deforestation), marine litter, resource efficiency/circular economy.

Though plastic is most harmful as regards pollution and food chain contamination, organic waste constitutes a larger fraction of waste mass than plastics: 60% compared to 15%. Exploring synergies between plastic sorting/collection and better use of organic waste for composting or methanisation, e.g. palm oil mill effluent (POME)[25], may be worth exploring.

[24] For this and the following sections, see also Specific Contract No. 2016/383013, Formulation of EU-funded action on Circular Economy 'Towards a global partnership on reducing plastic waste and marine litter', Needs Assessment, 23 June 2017.

[25] An industrial oil palm mill produces about 2.5 t of effluent per tonne of palm oil, or 0.5 tonne of effluent per tonne of fresh fruit. Palm oil mill effluent is a highly polluting material and much research has been dedicated to means of alleviating its threat to the environment. Wastewater treatment systems are now commonplace in large operations, but a true circular approach remains to be thoroughly considered.

A Circular Economy Mission[26] to Indonesia could be organised in the third quarter of 2018Q3, which could serve as a launch-pad for the project, if approved. The Our Ocean Conference (2017 Malta, October 2018 Bali) could also be considered to increase visibility and raise awareness.

2.2.4.3. The Philippines

The Philippines passed the Ecological Solid Waste Act in 2000 and tasked the National Solid Waste Management Commission (NSWMC) with its implementation. The NSWMC, chaired by the Department of Environment and Natural Resources (DENR), is composed by members of government, civil society and private sector and responds directly to the President.

While having a remarkably high collection waste rate with a nationwide average of 85%, the Philippines ranks third in terms of plastic waste (see Figure 1); 74% of plastic leakage comes from waste that has been collected but not properly disposed[27].

The Senate Committee on Environment and Natural Resources introduced in March 2017 Resolution No 329, calling for an enquiry to inform the formulation of new policies to reduce and eventually prevent plastic leakage into the ocean. The Senate reiterated the importance of private sector involvement, particularly commercial manufactures, in the enquiry process.
Earlier in 2011, a Senate Bill was proposed introducing a Total Plastic Ban in groceries, restaurants and other establishments.

In October 2017, the Climate Change Commission led a discussion with civil society and private sector on plastic waste management. The analysis led to the conclusions that actions need to be taken both at the consumer and producer level; this shall be achieved via education programmes to move away from the disposable/one use mentality and through the extension of Extended Producer Responsibility systems, the creation of a market for recycled goods and the development of plastic recovery programmes.

2.2.4.4. Vietnam[28]

Urban solid waste generation has increased at the average rate of 12%/year during the period of 2010 - 2014. The total solid waste in urban area is about 32,000 tons/day (2014) and from industry process is 22,440 tons/day (estimated in 2011). It is estimated that by 2020, the country will produce 22 million tons/year. Hanoi and Ho Chi Minh cities are the biggest producers of solid waste making up 41% of the country's total solid waste production. Plastic bag waste is a critical issue due to consumers' habits. In Hanoi city, plastic waste accounts for 3% of total waste.

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[26] http://ec.europa.eu/environment/international_issues/missions_en.htm.

[27] https://www.mckinsey.com/~/media/mckinsey/business%20functions/sustainability%20and%20resource%20productivity/our%20insights/saving%20the%20ocean%20from%20plastic%20waste/stemming%20the%20tide%20full%20report.ashx.
https://www.mckinsey.com/~/media/mckinsey/business%20functions/sustainability%20and%20resource%20productivity/our%20insights/saving%20the%20ocean%20from%20plastic%20waste/stemming%20the%20tide%20full%20report.ashx

[28] Vietnam National Environmental Report 2011-2015 (2015).

The waste collection rate in rural area is around 40% and it is estimated that 60% of rural areas don't have waste collection services. Open landfills are the dominant method to solid waste processing, while incineration is mainly used for medical waste.

Vietnam is home to 2,800 craft village including those that make handicrafts to be sold to tourists and some that specialises in recycling discarded plastics and turn them into plastic pellets or film. Informal plastics recycling in villages create health and environmental risks when they wash and dump dirty water into rivers and streams and when they melt plastic waste during recycling, resulting product may be contaminated with hazardous substances and during melting hazardous substances may be emitted.

The Law on Marine Resources and Environment and Island entered into force in July 2016 which provided the legal framework on the overall management of marine resources and environment. These are the legal basis for the improvement of marine environment protection and the control of marine pollution caused by marine debris, plastics and micro-plastics.

2.2.4.5. Thailand

According to the Thailand State of Pollution Report (2015)[29], plastic amounts to almost 20% of the total waste composition, with plastic bags representing 16% of the total plastic waste in coastal areas.

Thailand is increasingly looking at ways to address these challenges and has developed a Road Map on Waste and Hazardous Waste Management (2014), a National Solid Waste Management Master Plan 2016-2021 and launched the initiative Thailand Zero Waste 2016-2017.

As part of the National Solid Waste Management Master Plan, Thailand is developing measures to improve efficiency in waste generation, collection, recovery and disposal; it launched the review of the National Waste Management Law; and is developing education programmes and campaigns to increase public awareness.

The Department of Marine and Coastal Resources (DMCR) has been long engaged in studying marine pollution and one of the latest findings is related to the very large presence of micro-plastic pieces per square metre. The Department is also working on the implementation of the Marpol Convention and considering an increase in number of marine protected areas in the country.

[29] http://infofile.pcd.go.th/mgt/PollutionReport2015_en.pdf

https://hls-esc.org/documents/8hlsesc/Thematic%20C1/Thematic%20%20C1%20-%20Thailand%20_%20Solid%20Waste%20Management%20in%20Thailand%2C%20Policy%20and%20Implementation%20by%20Dr.%20Wijarn%20Simachaya.pdf.https://hls-esc.org/documents/8hlsesc/Thematic%20C1/Thematic%20%20C1%20-%20Thailand%20_%20Solid%20Waste%20Management%20in%20Thailand%2C%20Policy%20and%20Implementation%20by%20Dr.%20Wijarn%20Simachaya.pdf

2.2.4.6. Singapore

Singapore has adopted and enforced strict anti-littering laws and put in place an integrated waste management and collection system to minimise waste at source and ensure proper waste disposal.

Singapore's strategy focuses on two key thrusts – waste minimisation and recycling, or simply the 3Rs (Reduce, Re-use, Recycle). In land-scarce Singapore, waste-to-energy (WTE) incineration plants is considered by the National Energy Agency (NEA) to offer the best technical solution by reducing waste volume efficiently to conserve landfill space. In 2016 the government released a sustainability Blueprint with the overall goal to move "towards a Zero Waste Nation" by reducing consumption, as well as reusing and recycling all materials to give them a second lease of life.

However, the circular economy approach has not gained much traction when it comes to plastic waste. A big majority of the waste is incinerated and the recycling rate for plastic is only 7%. The government has signed the Singapore Packaging Agreement with the industry 10 years ago. The result of this voluntary agreement, which encourages the industry to reduce plastic waste, is a mixed bag with little impact on the production of plastic. Singapore is planning to introduce by 2021 mandatory reporting for companies regarding packaging in order to reduce packaging. The issue with this is that their plans are not looking at driving circularity but is rather looking at reducing tonnage. While the government supports initiatives by certain retailers to charge consumers for plastic bags, it has refrained from legislating on the issue.

2.2.4.7. China

Currently, China hosts the world's largest recycling industry, importing over 50% of the global trade for end-of-life plastic and 85% of the EU's plastic waste exports. This is a situation that is expected to change following China's decision to ban the import of certain types of wastes, including plastic waste, as from 1 January 2018[30].

China is improving its marine litter management at national as well as at regional level through close cooperation. In particular:

- Reports on the quality assessment of the marine environment in China have been released annually by State Oceanic Administration (SOA) and information on current status of marine litter quantities and distribution is included as well.
- Providing free plastic bags in all shops was prohibited from 1 June 2008.
- Several domestic laws and regulations related to the marine litter management were amended and enacted, including Regulations on the Control of Environmental Pollution by Ship-based Wastes (2009), Regulations on Prevention of Pollution Damage to Marine Environment by Coastal Construction Projects (2007).

[30] WTO Notification G/TBT/N/CHN/1211 of 18 July 2017, https://www.wto.org/english/news_e/news17_e/impl_03oct17_e.htm.https://www.wto.org/english/news_e/news17_e/impl_03oct17_e.htm.

- China has joined the International Coastal Cleanup (ICC) Campaign in 2007 and thereafter organized the annual ICC campaigns.
- The National 12th Five-Year Plan on Environmental Protection (2011-2015) addresses, among other issues, the pollution in several important estuaries; control of land-based pollutant sources (including marine litter) is a crucial step in protecting marine environment.
- In the 12th Five-Year Plan on Transportation (2011-2015), being carried out mainly by the Ministry of Transportation (MOT) covers building facilities in major ports to collect waste, thus preventing waste from being accidently lost at sea.
- New policies are being developed in some provinces to deal with marine litter, including charges for garbage collection/disposal. The central and local governments in China have supported Non-governmental organisations (NGOs) on marine litter related activities and the NGOs in Shanghai, Dalian and other coastal cities have been active in recent years.

2.2.4.8. Japan

Japan, in particular at central level, has a very good track record on Green Public Procurement (GPP) and binding legal requirements exist for 20+ groups of goods and products. In fact, according to the OECD Environmental Performance Reviews, "more than 90% of products and services procured by central government agencies meet the required environmental criteria". Furthermore, Japan's Basic Policy on Promoting Green Purchasing makes several explicit reference to recycled plastics.

While incineration is widespread especially in Japan's densely populated urban areas, at the same time Japan has tested – if different from the EU- policy approaches on resource efficiency, such as the Top Runner Programme, 3R etc. These approaches are discussed in the existing dialogues (especially the industrial policy dialogue) where the EU and Japan share major policy developments and keep each other informed on legal and regulatory measures related to the waste management, cycling and energy efficiency targets. The discussions have shown areas of convergence and common approaches, notably on the issue of economic competitiveness.

2.2.4.9. ASEAN Secretariat

The Association of South East Asian Nations (ASEAN) has recently started to engage. On 22-23 November the first ASEAN conference on reducing marine litter debris in the Asian region was held in Phuket (Thailand). It resulted in a joint statement calling for a collective and a coordinate action among ASEAN Member States and partners to address the marine debris pollution in the region.

While this action is not targeting ASEAN per se, it will be important to involve the ASEAN Chair[31] and the ASEAN Sustainable Goal coordinator (currently Thailand) and the ASEAN Secretariat[32] in relevant activities to ensure their political buy in and at the same time exploit synergies with ongoing plans and programmes.

[31] http://asean.org/asean/asean-chair/.
[32] http://asean.org/asean/asean-secretariat/.

2.2.4.10. Mekong River Commission

The Mekong River Commission[33] (MRC) is the only inter-governmental organisation that works directly with the governments of Cambodia, Lao PDR, Thailand and Vietnam to jointly manage the shared water resources and the sustainable development of the Mekong River, that figures among one of the 10 most polluting rivers. As a regional facilitating and advisory body governed by water and environment ministers of the four countries, the MRC ensures the efficient and mutually beneficial development of the Mekong River while minimising the potentially harmful effects on the people and the environment in the Lower Mekong Basin. The MRC looks across all sectors, including fisheries sustainability, identification of opportunities for agriculture, freedom of navigation, sustainable hydropower, flood management, preservation and conservation of important ecosystems. In providing its advice, the MRC aims at facilitating dialogue among governments, the private sector, and civil society. Although the MRC has set up an environment programme it is currently not engaging in activities to reduce the entry of litter into the Mekong and not in the collection of data to identify and monitor quantities.

While this action is not directly targeting the MRC, it will be important to involve the MRC in relevant activities to enhance their engagement and exploit synergies with ongoing plans and programmes.

2.3. Lessons learnt

This action has been developed on the basis of the results of an assignment to the Consortium SAFEGE[34] in the context of the framework contract EuropeAid/132633/C/SER/multi. The final report notes that the countries have been selected without prior consultation. The risk therefore existed that not all the countries would show the same level of interest. To overcome this, EU Delegations communicated intensively with the country stakeholders to brief them about the action and to secure their commitment and support, by highlighting the benefits of their cooperation. Language was also an obstacle, as knowledge of English, especially among stakeholders and local authorities, is not widespread. This was addressed by utilising local staff in the EU Delegations who would act as interpreters, when needed. Both issues will still be relevant for the implementation of this action and will need to be properly addressed in the implementation phase.

2.4. Complementary actions

The action fits into the context of a number of international initiatives commitments and conventions. It is amongst others linked to the **G20 Resource Efficiency Dialogue** and the **G20 Marine Litter Action Plan**, which is in particular of interest for China, Indonesia and Japan.

It also provides for actions that are required under a number of UN resolutions. In particular, the following are relevant:

- At the **3rd session of the United Nations Environment Assembly** of the United Nations Environment Programme (UNEP) (UNEA-3, 4-6 December 2017), which addressed the theme 'Towards a pollution-free planet', a resolution on marine litter and micro-plastics was

[33] http://www.mrcmekong.org/.

[34] Specific Contract No. 2016/383013, Formulation of EU-funded action on "Circular Economy 'Towards a global partnership on reducing plastic waste and marine litter' " and its annexes, 11 July 2017.

adopted. It builds on UNEP's assessment of the effectiveness of relevant international, regional and sub-regional governance strategies and approaches[35] that was required by UNEA-2. The resolution decided the establishment of an Ad Hoc Open Ended Expert Group to further examine the barriers to, and options for, combating marine plastic litter and micro-plastics from all sources, especially land based sources.

- The **2030 Agenda for Sustainable Development** encompasses 17 Sustainable Development Goals (SDGs) and 169 targets. Goals 12 and 14 appear particularly relevant to the issue of marine plastics, although all 17 goals are in some way involved. Goal 14 seeks to conserve and sustainably use the oceans, seas, and marine resources for sustainable development, and explicitly addresses marine debris. One of the targets for Goal 14 is Target 14.1: "By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution."
- The **Global Partnership on Marine Litter** (GPML) – joint initiative of UNEP and US National Oceanic and Atmospheric Administration (NOAA) – was launched in June 2012 at Rio + 20 in Brazil, following the recommendations contained in the Manila Declaration. The GPML is a voluntary multi-stakeholder coordination mechanism, bringing together policymakers (international agencies, Governments), civil society actors, the scientific community and the private sector to discuss solutions and catalyse actions, to further reduce and better manage marine litter. The UNEP provides the Secretariat for the GPML.
- Under the **Basel Convention**[36], Parties have adopted a number of measures including an Environmentally Sound Management (ESM) toolkit that they can use in shaping their national policies to ensure a sound management of waste, so contributing to achieving the SDGs. The ESM toolkit consists of practical manuals on waste management and fact sheets covering specific waste streams; and guidance for developing efficient strategies on waste prevention[37]. At the 13th meeting of the Conference of the Parties to the Basel Convention (Conference of the Parties (COP) 13 held in April 2017), Parties have engaged in developing new tools, such as a practical manual on extended producer responsibility (EPR), guidance on waste prevention and minimisation, factsheets on specific waste streams and manuals on EPR and financing systems for ESM. Another outcome of COP13 was the establishment of a new household waste partnership[38] and the inclusion of marine plastic litter and micro-plastics in the work programme of the Basel Convention's Open-ended Working Group[39] for 2018-2019.
- The **International Maritime Organisation** (IMO) banned the discharge of plastics from ships anywhere at sea almost 30 years ago: The International Convention for the Prevention of Pollution from Ships (MARPOL) Annex V prohibits the discharge of all types of garbage into the sea from ships, except in the cases explicitly permitted under the Annex (such as food waste, cargo residues, cleaning agents/additives that are not harmful to the marine environment).

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[35] UNEP (2017), Combating marine plastic litter and micro-plastics: An assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches.
[36] Basel Convention on the Control of Transboundary movements of Hazardous Wastes and their Disposal
[37] http://www.basel.int/Implementation/CountryLedInitiative/EnvironmentallySoundManagement/Overview/tabid/3615/Default.aspx.
[38] http://www.brsmeas.org/?tabid=4332&blogId=5148.
[39] For more info on the Basel Convention's Open-ended Working Group see: http://www.basel.int/TheConvention/OpenendedWorkingGroup(OEWG)/OverviewandMandate/tabid/2295/Default.aspx

The countries in South and South East Asia are involved in regional activities and Regional Sea Conventions, some of which are coordinating actions related to marine litter:

- The **East Asian Seas Action Plan** aims to address these threats and is stimulated by concerns on the effects and sources of marine pollution. The Action Plan involves Indonesia, the Philippines, Thailand, Vietnam and China, as well as Malaysia, Singapore Cambodia and Korea. Among the Regional Seas Programmes, East Asia has steered a unique course. There is no regional convention; instead the programme promotes compliance with existing environmental treaties and is based on member country goodwill. East Asian Seas Action Plan is steered by the Coordinating Body on the Seas of East Asia, COBSEA, that is consisting of the member countries. The COBSEA Secretariat is the lead agency of the United Nations for marine environmental matters in East Asia, responsible for co-ordinating the activities of governments, NGOs, UN and donor agencies, and individuals in caring for the region's marine environment.
- The **Asia-**Pacific **Economic Cooperation** (APEC) is a regional cooperative, multilateral economic and trade forum established in 1989 to leverage the growing interdependence of the Asia-Pacific. APEC's 21 member economies include China, Indonesia, Japan, The Philippines, Vietnam and Thailand. The APEC has an increasing focus on marine litter. Among other, the 2014 Xiamen Declaration noted to encourage cooperation on the reduction and mitigation of marine pollution, including from land-based sources, through continuation and expansion of efforts to reduce marine debris. On 5 September 2017 the APEC held a High Level meeting in Bali, Indonesia, on accelerating waste management solutions to reduce marine litter[40].
- The 10th **East Asia Summit** (EAS), held in Kuala Lumpur (Malaysia) on 21 November 2015 among Heads of State/Government of the Member States of the ASEAN and several other countries (such as China), adopted a statement on enhancing regional maritime cooperation, which confirmed their commitment to addressing transboundary marine and coastal pollution from land-based and sea-based sources of marine debris, offshore exploration and exploitation as well as other marine activities. On 6-7 September 2017, an "East Asia Summit Conference on Combating Marine Plastic Debris" took place in Bali, Indonesia.
- **EU-ASEAN Plan of Action 2018-2022** mentions cooperation on the concept of circular economy among its possible activities. This would encourage sustainable consumption models by exchanging experiences on measures covering the entire product life cycle: from production to consumption, waste management and the market for secondary raw materials.
- The **ASEAN** Secretariat and the Ministry of Natural Resources and Environment of Thailand organised in November 2017 an "ASEAN Conference on Reducing Marine Debris in ASEAN Region" in Phuket, Thailand. The conference summary includes recommendations on policy support and strengthening, capacity building, education, research and innovation, private sector engagement as well as public awareness and outreach.
- The **South Asia Cooperative Environment Programme** (SACEP)[41] is developing actions in line with relevant resolutions on marine litter and micro-plastics by the United Nations Environment Assembly and the objectives and goals under the 2030 Agenda for Sustainable

[40] http://www.indonesianwaste.org/en/5-september-2017-apec-high-level-meeting-on-accelerating-waste-management-solutions-to-reduce-marine-litter/.
[41] www.sacep.org.

Development, notably SDG 12 on sustainable consumption and production and SDG 14 on oceans.

2.5. Cross-cutting issues

Actions on stakeholder engagement in environmental issues will help demonstrate the importance of civil society and Civil society organisations (CSOs) in supporting government goals. The activities that link the work of the local CSOs in addressing waste management and preventing plastic leakage to the ocean will be concrete example of this crucial cooperation.

By helping reducing marine litter, this action will be supporting communities that rely on fisheries or tourism as a source of income, thus helping addressing broader sustainable development objectives, including decent work and inclusive economic growth.

Gender mainstreaming aspects will be considered throughout the project. Equal gender representation among participants and resource persons for the activities will be ensured to the maximum extent possible. Any impact on women and vulnerable members of the society especially at local community level will be considered for any relevant activities, including outreach.

3. DETAILED DESCRIPTION

3.1. Objectives

The **overall objective** of the action is to support the international aspects of the EU Plastic Strategy in East and South East Asia, thereby contributing to strengthening EU cooperation with countries in the region in the areas of circular economy, plastic waste and marine litter reduction.

The **specific objective** of the action is to support a transition to sustainable consumption and production of plastic in East and South East Asia and contribute to significantly reduce marine litter, including by supporting European approaches, policies and business models.

3.2. Expected results and main activities

Result/output 1: Enhanced basis for relevant EU policy dialogues, e.g. on environment, fisheries and industry, concerning plastic production and management

Specific activities linked to result/output 1:

1.1 Identify and engage, inter alia via policy dialogues, with relevant national and regional authorities within the selected countries and in the broader region, including the Mekong River Commission and the ASEAN Secretariat, responsible for regulating plastic production, packaging, retail and consumer goods industry, plastic waste collection and recycling, and waste water treatment. River management authorities, including the Mekong River Commission, will also need to be identified and engaged with.

1.2 Identify and engage, inter alia via workshops and direct contacts, with of non-governmental organisations ‘(NGOs) and Community-based organisations (CBOs), relevant businesses organisations and lead business players in the field of plastic

production, plastic waste collection, plastic waste recycling, to understand opportunities that European plastic production and consumption models can offer to improve consumption and production in the selected countries.

1.3 Identify and engage, inter alia via policy dialogues, with the relevant national and, where appropriate, regional authorities responsible for regulating fisheries and aquaculture, as well as fishers' organisations, building on ongoing processes and contacts, with a view to support the development of relevant measures for preventing plastic leakage to the oceans.

1.4 Identify and engage, inter alia via workshops and direct contacts, with existing European initiatives and networks in the region, for example the EU-Indonesia Business Network[42], the EU-Vietnam Business Network[43], the EU SME Centre in China[44], Eurocham in Singapore, national chambers (e.g. KADIN in Indonesia, the International Chamber of Commerce in Singapore) and similar bodies in other countries in the region. Their help and involvement will be necessary to prepare the ground for relevant activities under this action, notably in identifying best practice, liaise with relevant national or regional business leaders, and show the benefits and feasibility of innovative operational processes, products or business concepts that use less plastics, in particular for plastic packaging, and favour recycling.

1.5 Produce a Regional Status Report[45], summarising the current state of affairs with respect to the circular economy in the selected countries, by identifying policy gaps, providing an overview of circular economy policies, legislation and measures adopted, identifying short and medium term circular economy opportunities and the barriers that limit these. It will deepen the knowledge basis, including in terms of regional, national and to the extent possible local stakeholders, and will provide information concerning existing (or not) extended producer responsibility (EPR) and deposit return (DRS) schemes, implementation of the waste hierarchy, and opportunities for EU intervention in addition to the other activities implemented under this action. The report will provide information concerning the national plastic industry (plastic producers, plastic converters, in particular the packaging producers, companies involved in mechanical recycling, packer-fillers (i.e. brand owners), including producers of fishing gear etc.) and opportunities for its "greening". The report will also provide an overview of public procurement in the country as well as of best practices in the region. It will map recent plastic-related EU projects in the selected countries / region and provide a summary of lessons learnt. The report will also identify the existing partnerships, networks and communication opportunities (e.g. conferences, workshops, trade fairs, business events etc.) in the selected countries. The report will contain specific annexes dedicated to each selected country, as well as ASEAN and the Mekong Region.

[42] http://een.ec.europa.eu/about/branches/id00827.
[43] http://een.ec.europa.eu/about/branches/vn00872.
[44] http://www.eusmecentre.org.cn/.
[45] Building on the Specific Contract No. 2016/383013, Formulation of EU-funded action on "Circular Economy 'Towards a global partnership on reducing plastic waste and marine litter' " and its annexes, 11 July 2017.

Result/output 2: Implementation of waste hierarchy, extended producer responsibility and deposit return schemes for plastic products and plastic waste is supported

Specific activities (do not apply to Japan and Singapore) linked to result/output 2:

2.1 Legislative and, where appropriate, technical assistance to the national and to the extent possible local authorities in:

2.1.1 Supporting the development of well-designed and well-functioning waste management systems ensuring the separate collection of plastic and organic waste, as this is a prerequisite for maximising the recovery of resources, inter alia plastics, and preventing their leakage to the environment. This activity will profit from the material developed by the Basel Convention, in particular the toolkit for an environmentally-sound management of waste (ESM Toolkit)[46].

2.1.2 If not already part of the national and regional legislation, supporting the adoption of the waste hierarchy (waste prevention repair, reuse and remanufacturing to be preferred over recycling; incineration without or with little energy recovery or landfilling as the least preferred options) and its effective implementation, with a particular focus on plastic and plastic waste, and the prevention of littering.

2.1.3 Supporting the implementation of extended producer responsibility (EPR) schemes to relieve public authorities (partially) of the cost of managing a specific waste stream (e.g. plastic packaging, disposable plastic utensils, fishing gears, agricultural plastics, waste electric and electronic equipment, end-of-life vehicles etc) transferring the financial burden from taxpayers to consumers, internalise the cost of end-of-life management of a product in the price of new products, thus providing an incentive for eco-design approach, and ensure effective and environmentally sound collection and treatment of that waste stream.

2.1.4 Supporting the implementation of deposit return schemes (DRS) based on additional fees on some products, which have to be paid by the consumer at the sales point of a given item in the form of a deposit. The deposit fee is returned to the consumer when bringing back the item. Most deposit schemes have been set up in the EU Member States for packaging waste, especially for drinking bottles, but also for transport packaging (boxes and pallets). Deposit schemes provide an economic incentive to waste holders to bring their waste back to return points and usually ensure high return rates (above 95% or more in Germany and the Netherlands) and are thus an effective means to combat littering. In addition, the items that are returned are clean sorted fractions with very little contamination, and are therefore perfectly suitable for their reuse or recycling.

2.2 Increased awareness, via communication campaigns to producers and consumers, of the importance of sewage collection and waste water treatment for preventing plastic

[46] http://www.basel.int/Implementation/CountryLedInitiative/EnvironmentallySoundManagement/Overview/tabid/3615/Default.aspx.

waste entering the oceans through the river route, in cooperation with local authorities, and the Mekong River Commission and, where existing in the selected countries, the river basin management authorities.

2.3 Identification, inter alia in cooperation with the EU Chamber of Commerce in the selected countries, of opportunities for EU businesses (e.g. solid waste management in line with the waste hierarchy[47], waste water treatment, clean technologies, alternative fishing gears etc) in providing European solutions, approaches, technologies and know-how for the activities above.

2.4 A database inventorying the best and easily replicable practices around the world for supporting sustainable production and consumption of plastic, addressing waste prevention, sound plastic waste management and waste water treatment will be developed. It will be accompanied by a roster of experts having contributed to the development and application of these best practices. On that basis, specific seminars focused on concrete solutions having proven to be efficient whether in or outside the EU will be organised. This will open the path for possible additional concrete actions.

2.5 Implement one to two pilot projects in each of the selected countries (with a minimum of five pilot projects, excluding Japan and Singapore), supporting the implementation of an EPR scheme and/or the implementation of a DRS. This should be linked to policy processes at national level and could include exchange between a "champion" city and another city in the same country or in two different countries and involve civil society, scientific and business organisations.

Result/output 3: Activities for sustainable consumption and production of plastic are implemented

Specific activities linked to result/output 3:

3.1 Working, inter alia through technical and legislative assistance and workshops, with relevant public authorities as well as the local plastic industry to support the design of plastic-containing products, as the choices made at the product design phase have a direct impact on the recyclability of plastics and the possibility to find their way back in the loop. Optimised design can lead to more durable, reparable, reusable, easy to dismantle and recyclable plastic products. Design for recyclability is particular relevant for plastic packaging given that it is the most abundant plastic waste type and its short lifetime.

[47] A recognised principle at international level that in the EU is enshrined in the Waste Framework Directive (Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives, OJ L 312, 22.11.2008, p. 3–30). Article 4(1) of the Directive provides for the following hierarchy: (a) prevention; (b) preparing for re-use; (c) recycling; (d) other recovery, e.g. energy recovery; and (e) disposal, leaving however some flexibility to Member States in its application, as the ultimate goal is to encourage those waste management options that deliver the best environmental outcome. It should be noted that incineration of municipal waste in dedicated installations, depending on their energy efficiency, may fall under point (d) or (e) in the hierarchy, as set out in the first footnote of Annex II to the aforementioned Directive, and also as highlighted in the Communication 'The role of waste-to-energy in the circular economy' (COM(2017) 34).

3.2 Support, inter alia through technical and legislative assistance and workshops, the development of appropriate standards for plastic recyclates (from mechanical and chemical recycling), in cooperation with relevant public authorities and industrial organisations, as a market for such secondary raw materials will only develop if they fulfil specific quality standards and the recycled plastics is demonstrated to be safe. Consider initiatives, without funding them, to promote research and development, entrepreneurship and training on product development with recycled plastic materials.

3.3 Show-case European approaches related to innovative operational processes, products or business concepts that use better plastics or less plastic, in particular for plastic packaging, in cooperation with the local plastic industry and competent authorities as well as with teachers.

3.4 Through technical and legislative assistance, consider how to minimise / prevent the addition of micro-plastics to all products, including cosmetics, detergents and paints, and the release of micro-plastics from products such as tyres, textiles or pre-production plastic pellets, in cooperation with the competent authorities and the local industry, building on European know-how for sustainable alternatives and technologies.

3.5 Implement one to two pilot projects in each of the selected countries (with a minimum of five pilot projects, excluding Japan and Singapore), addressing plastic bags or other single-use plastic products. These pilot projects will demonstrate the technical feasibility of these activities and will serve to better engage with the relevant authorities, industry, scientific and civil society stakeholders.

Result/output 4: Efforts for the reduction of litter from sea-based sources are enhanced

Specific activities (do not apply to Japan and Singapore) linked to result/output 4:

4.1 Legislative and if appropriate technical assistance to the national and to the extent possible local authorities in:

4.1.1 Promoting the separate collection of waste from ships, including fishing vessels and recreational craft, in ports, in compliance with the International Convention for the Prevention of Pollution from Ships (MARPOL) and in line with the new EU approach to port reception facilities (incorporating the relevant MARPOL provisions in EU law), aimed at increasing the delivery of waste from ships, including fishing vessels and recreational craft, on shore to adequate port reception facilities.

4.1.2 Developing passive 'fishing for litter' schemes. While preventing the leakage of plastic into the marine environment is the first priority, action to retrieve some of the plastics floating in the oceans can have a role to play[48]. Fishing vessels can also make a contribution to solving the problem by picking up litter not only from sea-based sources but also from that coming from the land. They can do this by sorting, collecting and delivering the litter found in their nets during

[48] In the EU it is supported by EU funds – see https://ec.europa.eu/easme/en/information-day-blue-growth-calls-under-emff.

normal operations ("passive" fishing for litter) to adequate port reception facilities. These active operations should focus on lost, abandoned or discarded fishing gear (ALDFG) and be carried out in an environmentally sound way, after the identification of so called "hot spots" where there are important quantities of such gear or where there is a high risk for marine life[49].

4.2 Through twinning with relevant organisations and technical assistance and on the basis of European know-how, identify quantities and types of marine litter from aquaculture and implement best practice to prevent abandoned, lost and otherwise discarded fishing gears from fishing vessels as well as marine litter from aquaculture.

4.4 Implement one to two pilot projects in each of the selected countries (with a minimum of five pilot projects, excluding Japan and Singapore), on the MARPOL Convention (Annex V and related Guidelines), in particular enforcement of the ban on discharges of garbage at sea and the requirement for the provision of adequate Port Reception Facilities, as well as on passive "fishing for litter" scheme.

Result/output 5: Green procurement policies, processes and cooperation are strengthened

Specific activities (for Japan and Singapore only) linked to result/output 5:

5.1 In cooperation with relevant public authorities:

5.1.1 Share best practice and relevant experience, inter alia through workshops, on how to drive the circular economy in the plastic sector, contributing to a reduction of marine litter, by using their purchasing power to choose circular goods, services and works.

5.1.2 Exchange, inter alia through workshops, about tools and information that procurement officials can use to choose for products that are circular and contribute to less marine litter, including lessons learnt (e.g. in the EU through Green Public Procurement actions).

5.2 Working with EU chamber of Commerce, identify opportunities for EU businesses in providing European solutions, approaches, technologies and know-how in fulfilling green public procurement standards in Japan and Singapore, and co-organise relevant events.

Result/output 6: Awareness of public authorities and consumers about sustainable consumption and production of plastic and impacts on the environment of littering is increased

Specific activities linked to result/output 6 (do not apply to Japan and Singapore):

[49] Guidelines for these operations were discussed and developed within the following EU studies: http://www.marelitt.eu/, https://www.marelittbaltic.eu/, http://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/pdf/MSFD%20Measures%20to%20Combat%20Marine%20Litter.pdf (pp. 152-198).

6.1 Supporting the design and implementation of a comprehensive communication and awareness raising campaign at national level and among selected local governments and communities to increase public awareness on sustainable consumption patterns of plastic and packaging, including alternatives to plastic, and the impacts on the environment of littering. The campaign should develop key messages, communication tools and materials and activate most popular communication channels among the local communities, adapting to preferred communication media.

6.2 Organise, in close cooperation with relevant national and local authorities in the selected countries, a high-level event per country to disseminate the results of the projects and support increased EU visibility in circular economy model applied to the plastic sector.

6.3 Each year, organise a week-long study visit to the EU for up to 15 officials and key stakeholders from the selected countries in order to establish and nurture partnerships between them and relevant authorities from one or more EU Member States as well as the EU. A seminar could also be organised in the region, for instance in Bangkok, in addition.

3.3. Risks and assumptions

Assumptions

The main assumption is that the findings in the report *Formulation of EU-funded action on Circular Economy 'Towards a global partnership on reducing plastic waste and marine litter'*[50] of July 2017 will still be valid by the time this action is implemented on the ground. In particular, it is assumed that the stakeholders (including public authorities) approached in that occasion and that have expressed an interest in this action will still like to be actively engaged.

It is also assumed that the increasing global interest shown to resource efficiency and sustainable consumption and production (e.g. in the G20 and at UNEA-3) will continue to apply also to the selected countries.

[50] Specific Contract No. 2016/383013, Formulation of EU-funded action on Circular Economy 'Towards a global partnership on reducing plastic waste and marine litter', July 2017.

Risks

Risk	Risk level (H/M/L)	Mitigating measure
Stakeholders that are going to take part in the activities have to be identified specifically and need to be mobilised. Moreover, the number of stakeholders involved is considerable and is specific for each theme within the action.	**H**	This will be addressed by carefully considering the findings in the report *Formulation of EU-funded action on Circular Economy 'Towards a global partnership on reducing plastic waste and marine litter* so as to initially address and build on already contacted stakeholders.
National and local governments lack the political will and enforcement power to improve plastic collection	**M**	Awareness raising and full involvement of national and local levels in the action. Prioritise the topic of plastic management in relevant policy dialogues.
Reluctance of local communities to move away from illegal or unsustainable practices in plastic waste management.	**H**	Awareness raising about the benefits for their livelihoods and employment situation. Encourage reward system for communities that actively participate in waste collection schemes.

3.4. Stakeholders

Stakeholders include first and foremost relevant national and regional authorities within the selected countries (and in the broader region as well, including the Mekong River Commission and the ASEAN Secretariat), as well as businesses (plastic producers and recyclers, fishers). River management authorities, including the Mekong River Commission, will also need to be addressed by the action.

The close involvement of regional sea conventions and synergies with action plans against marine litter should be sought. UNEP and its Global Partnership on Marine Litter (GPM) and the International Environmental Technology Centre (IETC) as well as UNIDO would also need to be involved, where appropriate.

Synergies with work by the G20 on resource efficiency and against marine litter should be sought in activities concerning China, Indonesia and Japan.

4. IMPLEMENTATION ISSUES

4.1. Method of implementation

4.1.1. Indirect management[51] with agencies of a Member State

This action may be implemented in indirect management with Agence Française d'Expertise Technique Internationale (AFETI) in accordance with Article 58(1)(c)(v) of Regulation (EU, Euratom) No 966/2012 and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in accordance with Article 58(1)(c)(vi) of the said Regulation.

This implementation entails undertaking all necessary actions, including the main indicative activities described above in section 3, to achieve the objectives and expected results of the project. This implementation is justified because of the specific technical competence and geographical presence of both the AFETI and GIZ in the partner countries, their complementarity and their particular policy engagement and longstanding experience with the relevant authorities in these countries on environmental issues.

AFETI and GIZ complement each other to ensure a solid presence both at country level and regionally and has developed contacts in a large network of stakeholders. Both AFETI and GIZ will involve expertise from other EU member states during the implementation of the activities that ensuring a genuine and wide European character to this action.

The entrusted entities would carry out budget implementation tasks that may include *inter alia* the provision of technical assistance and consultancy services, organisation of seminars/conferences/study visits/events, communication activities, awarding grants to fund pilot actions.

4.2. Indicative budget

Method of Implementation	Amount in EUR million
4.1.1. – Indirect management	9
Totals	**9**

4.3. Organisational set-up and responsibilities

A steering committee shall be set up in support of the action. It will consist of representatives of relevant Commission services and the EEAS, with relevant EU Delegations, as the main interlocutors for technical issues.

[51] Article 216 RAP (Article 139 FR) Selection of the entities entrusted with the implementation of financial instruments in indirect management

4.4. Performance monitoring

The day-to-day technical and financial monitoring of the implementation of this action will be a continuous process and part of the implementing entity's responsibilities. To this end, the implementing entity shall establish a permanent internal, technical and financial monitoring system for the action and elaborate regular progress and final reports.

Every report shall provide an accurate account of implementation of the action, difficulties encountered, changes introduced, as well as the degree of achievement of its results. The progress and final reports shall provide quantified and qualitative data in relation to the logical framework indicators which will include relevant indicators from the list of core Partnership Instrument indicators.

The reports shall be laid out in such a way as to allow monitoring of the means envisaged and employed and of the budget details for the action. The final report, narrative and financial, will cover the entire period of the action implementation.

The Commission may undertake additional project monitoring visits both through its own staff and through independent consultants recruited directly by the Commission for independent monitoring reviews.

4.5. Evaluation and audit

For this project, the Commission may carry out interim and/or final/ex-post evaluation(s) via independent consultants contracted by the Commission based on specific terms of reference.

Without prejudice to the obligations applicable to contracts concluded for the implementation of this action, the Commission may, on the basis of a risk assessment, contract independent audits or expenditure verification assignments.

As the "N+1" rule applies for contracting under this decision, external evaluations and audits, as well as additional external monitoring referred to under section 4.3 above, will be funded from sources other than those allocated to this specific action.

4.6. Communication and visibility

Communication and visibility of the EU is a legal obligation for all external actions funded by the EU and will therefore be an integral part of the action.

The implementing partner will establish a Communication and Visibility Plan at the start of implementation in line with relevant guidelines that inter alia, will define the key messages and specific communication/EU visibility actions to be taken.

This action must comply with the updated 'Communication and Visibility Requirements for EU External Actions' for implementing partners that came into force on 1st January 2018, and apply to all contracts signed from that date.[52]

[52] https://ec.europa.eu/europeaid/sites/devco/files/communication-visibility-requirements-2018_en.pdf .