Submitted by UNEP on 26 February 2020

A thought starter

Strengthening the links between the biodiversity post-2020 framework with chemicals & waste

WHY does it matter?

Why is it imperative to strengthen the links between biodiversity and chemicals and waste?

- Pollution, including from the **unsound management of chemicals and waste, is one of the key drivers threatening the planets biodiversity** as recognized by CBD Aichi Target 8 which aims to bring pollution to levels that are not detrimental to ecosystem function and biodiversity by 2020.
- The **post-2020 Global Biodiversity Framework cannot succeed without addressing pollution** as a key driver of biodiversity loss, as the beyond-2020 chemicals and waste agenda cannot succeed alone.
- There is an urgency to strengthen the linkages between our common goals as global sales in chemicals was worth approximately US dollars 3.5 trillion (excluding pharmaceuticals) in 2017 and **chemicals production is expected to double** in size between 2017 and 2030[1].

Examples of the impacts of unsound management of chemicals and waste on biodiversity

Informal or poorly regulated artisanal and small scale gold mining, often using mercury and occuring in the protected areas, causes land degradation and deforestation.

Neonicotinoids, which are among the world's most widely used insecticides, can affect the sperm count of male honey bees and reduce the number of queen bees. (source GCO II)

Organic and nutrient enrich-ment related to sewage/indus-trial discharges and land run-off have led to increases in hypoxic zones in both marine and freshwater ecosystems in the last 50 years. (source GCO II)

Marine plastic pollution in particular has increased tenfold since 1980, affecting at least 267 species, including 86 per cent of marine turtles, 44 per cent of seabirds and 43 per cent of marine mammals. (source: IPBES)

How does the sound management of chemicals and waste contribute to achieving the SDGs?

By reducing and phasing out the use of chemicals and waste of concern for human health

By providing solutions to improve water quality and sanitation

By providing access to safe and adequate housing and improve air quality

By promoting circular economy , green chemisttry and resource efficiency

[1] Global Chemical Outlook II

Overall objective of this thought starter

We have before us an exceptional opportunity to reshape and create an aligned response that is as interlinked as the challenges we face under the wider umbrella of the 2030 Agenda for Sustainable Development. We hope that this thought starter provides some useful insights on the Zero Draft of the Post-2020 Global Biodiversity Framework from a chemicals and waste perspective. The overall aim is to coordinate efforts so that we may better align our common goals and address the loss of biodiversity linked to pollution, including from the unsound management of chemicals and waste[2].

WHAT: Aligning our frameworks

Recommendations for strengthening the post-2020 biodiversity framework

The Zero Draft of the Post-2020 Global Biodiversity Framework could benefit from more detailed information for each target and indicator related to chemicals and waste (See table 1 and 2). This could be achieved **by drawing on the knowledge and expertise from the chemicals and waste cluster** to inform the framework, for example by:

- **Harmonizing with, capitalizing on and creating links to existing frameworks, C&W MEAs, indicators, data collection methods**, e.g. Sustainable Development Goals, Aichi Target 8 (Annex 1), GEF-7 Core Indicators for Pollution, Chemicals and Waste (see Annex 2), Chemical and waste conventions and agreements (BRS, Stockholm, Minamata, Montreal and SAICM).
- **Creating sub or specific indicators** which could help with reporting and extracting more meaningful information, e.g., 'pesticide' is too general, could target known Harmful Hazardous Pesticides (HHPs).
- **Identifying priority pollutants/chemicals** based on key scientific and technical assessments, e.g., bisphenol A, cadmium, triclosan[3], mercury[4] and other heavy metals, persistent organic pollutants, microplastics[5] and endocrine disrupters.
- **Defining parameters or units**, e.g., amount of chemical used, toxicity, etc., in order to assess the impact on biodiversity and habitats and to target the most harmful substances.
- **Identifying available data sources** - demonstrate what is available (& possible to measure), where there are baselines and existing methodologies, and where there are gaps, e.g., existing regional and global data sources, e.g., existing global data sources such as the Global Mercury Assessment (GMA)
- **Naming a custodian** for each indicator or data source.
- **Defining terminology used,** e.g**.,** biocide versus pesticide.
- **Assessing the feasibility of target 4** to reduce pollution by at least 50% by 2030, for example by cross referencing with targets and objective in relevant MEAs (e.g., BRS, Minamata, Montreal etc.).

[2] Draft "Assessment on linkages with other clusters related to chemicals and waste management and options to coordinate and cooperate on areas of common interest" presents examples of linkages between biodiversity and chemical and waste cluster.

[3] Based on Global Chemical Outlook II, Chapter 5 "Other issue where emerging evidence indicates a risk" and UNEA resolution 4/8

[4] Based on Global Mercury Assessment 2018

[5] Based on IPBES Global Assessment Report on Biodiversity and Ecosystem Services – Summary for Policymakers

Table 1. Recommendations for strengthening the post-2020 Framework – Priority for Chemicals and Waste: Target 4

Black– extract from the Appendix 2. Preliminary Draft Monitoring Framework for Target 4
Red – proposal to strengthen the framework from a chemicals and waste perspective. Below are examples of where the chemicals and waste cluster can contribute to the framework and how it could be operationalized.

	A	B	C								
	Draft 2030 targets	**Suggested elements of the targets for monitoring**	**Suggested indicators[2]**	Proposed Specific indicator (sub indicator?)	Parameter (metric tons, number, etc.)	Available / Under active development	SDGs indicator	Aichi Indicator	Used in (GBO, IPBES, GCO, etc.)	Data	
										SOURCE(S)	CUSTODIAN
Reducing threats to biodiversity											
4	Reduce by 2030, air, water and soil pollution from chemicals and waste, excess nutrients, biocides, plastic waste and other sources by at least [50%].	Change in the trends in nitrogen waste	Nitrogen Use Efficiency. Nitrogen + Phosphate Fertilizers (N+P205 total nutrients). Trends in Loss of d Nitrogen to the Environment. Trends in Nitrogen Deposition.								
		Change in the rate of pesticide use.	Amount of pesticide use*	Example: HHP							
		Change in the rate of plastic pollution.	Index of Coastal Eutrophication (ICEP) and Floating Plastic debris Density. Proportion of reusable, recyclable or where viable alternatives do not exist, recoverable plastics.								
		Change in amount of other pollutants (including light and noise).	*To be identified*	EXAMPLE: Trends in POPs emissions		X		X		Clearing-house mechanism[6]	Stockholm Convention
				EXAMPLE: Trends in mercury emissions		X		X	GMA	GMA[7]	UNEP
				.....							
		Change in the impact of pollution on biodiversity.	Index of Coastal Eutrophication (ICEP) and Floating Plastic debris Density Proportion of bodies of water with good ambient water quality. Red List Index (impacts of pollution).								
		Change in the number of countries with effective waste and pollution management programmes and policies.	Number of countries with effective waste management plans*								
		Additional element referring specifically to chemicals and waste?									

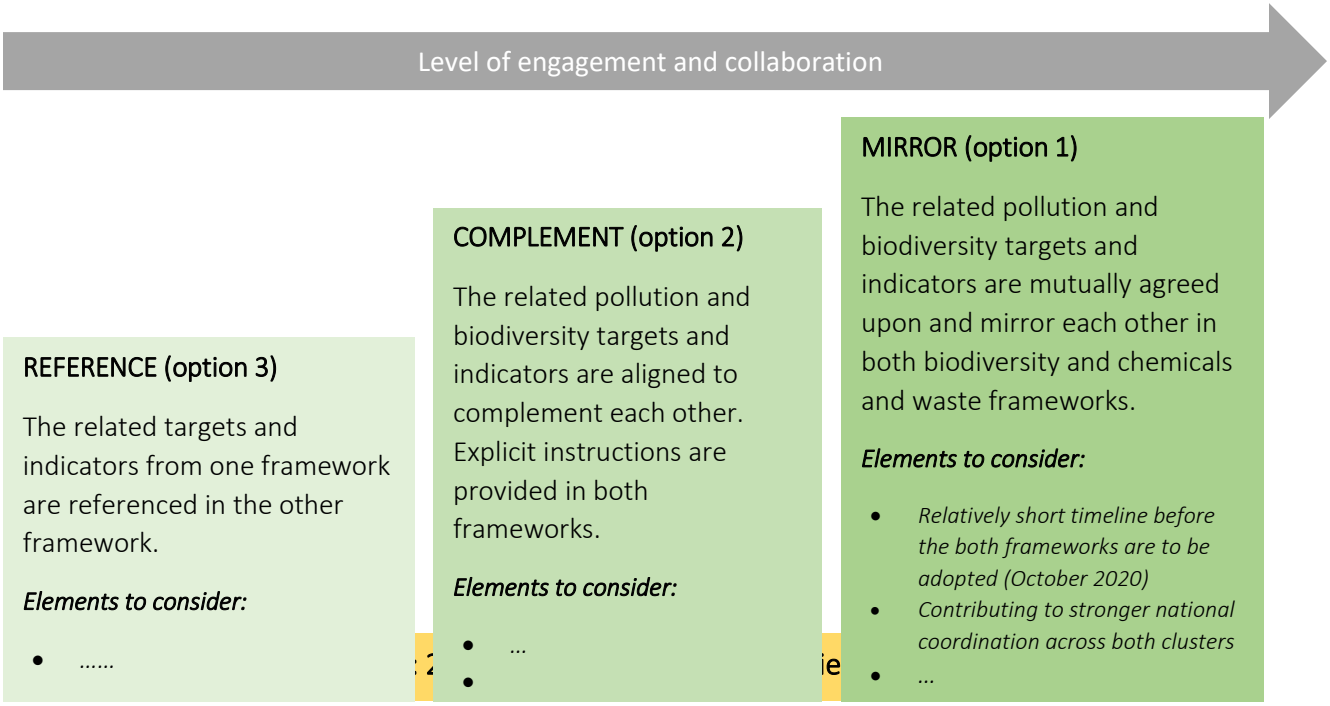
[6] http://www.brsmeas.org/Implementation/KnowledgeManagementandOutreach/Clearinghousemechanism/tabid/5382/language/en-US/Default.aspx
[7] https://www.unenvironment.org/resources/publication/global-mercury-assessment-2018

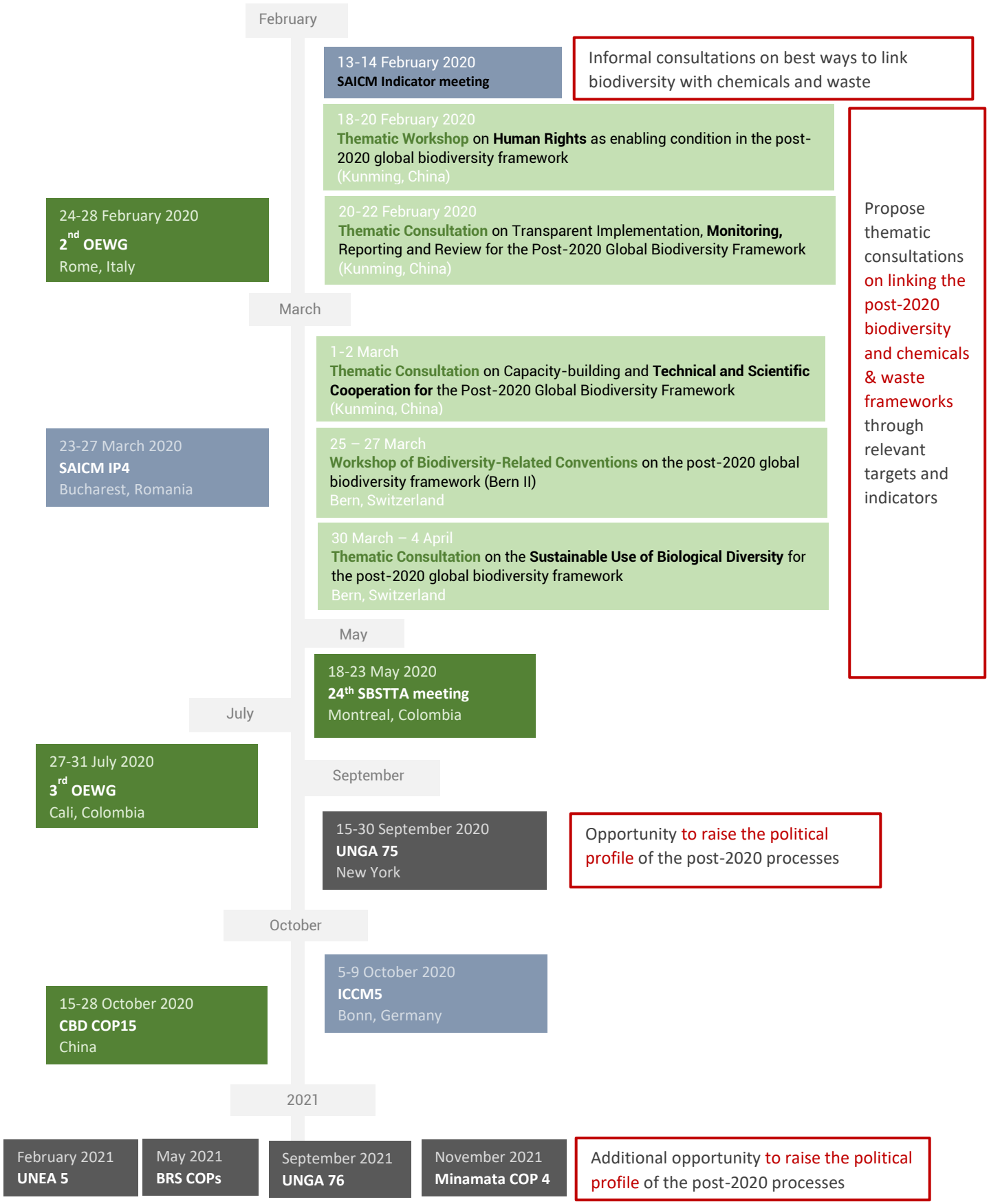
Table 2. Other elements of common interest in Appendix 2. Preliminary Draft Monitoring Framework

Draft 2030 targets	Suggested elements of the targets for monitoring
Target 8. *Conserve and enhance the sustainable use of biodiversity in agricultural and other managed ecosystems to support the productivity, sustainability and resilience of such systems, reducing by 2030 related productivity gaps by at least [50%].*	• Change in trends in pollinators and benefits • Change in soil health. • Change in trends in the use of natural pest controls.
Target 9. *Enhance nature-based solutions contributing, by 2030, to clean water provision for at least [XXX million] people.*	• Change in the number of people with access to sufficient amounts or quality freshwater. • Change in water use intensity.
Target 12. *Reform incentives, eliminating the subsidies that are most harmful for biodiversity, ensuring by 2030 that incentives, including public and private economic and regulatory incentives, are either positive or neutral for biodiversity.*	• Change in the value of subsidies harmful to biodiversity • Change in the value of positive incentives for biodiversity
Target 13. *Integrate biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts, ensuring by 2030, that biodiversity values are mainstreamed across all sectors and that biodiversity-inclusive strategic environmental assessments and environmental impact assessments are comprehensively applied.*	• Biodiversity values integrated into national and local planning, development processes, poverty reduction strategies. • Biodiversity values integrated into national accounts. • Application of biodiversity-inclusive strategic environment assessments and environmental impact assessments.
Target 17. *People everywhere take measurable steps towards sustainable consumption and lifestyles, taking into account individual and national cultural and socioeconomic conditions, achieving by 2030, just and sustainable consumption levels.*	• Change in the trends in the use of resources. • Change in the number of countries with policies in place to promote sustainable consumption.

HOW: Options for linking the post-2020 frameworks

Using common indicators is an opportunity that we must seize to monitor progress on our common goals and targets while opening the door a bit wider in terms of linking biodiversity with chemicals and waste.




February
13-14 February 2020
SAICM Indicator meeting
Informal consultations on best ways to link biodiversity with chemicals and waste
18-20 February 2020
Thematic Workshop on Human Rights as enabling condition in the post-2020 global biodiversity framework
(Kunming, China)
24-28 February 2020
2nd OEWG
Rome, Italy
20-22 February 2020
Thematic Consultation on Transparent Implementation, Monitoring, Reporting and Review for the Post-2020 Global Biodiversity Framework
(Kunming, China)
Propose thematic consultations on linking the post-2020 biodiversity and chemicals & waste frameworks through relevant targets and indicators
March
1-2 March
Thematic Consultation on Capacity-building and Technical and Scientific Cooperation for the Post-2020 Global Biodiversity Framework
(Kunming, China)
23-27 March 2020
SAICM IP4
Bucharest, Romania
25 – 27 March
Workshop of Biodiversity-Related Conventions on the post-2020 global biodiversity framework (Bern II)
Bern, Switzerland
30 March – 4 April
Thematic Consultation on the Sustainable Use of Biological Diversity for the post-2020 global biodiversity framework
Bern, Switzerland
May
18-23 May 2020
24th SBSTTA meeting
Montreal, Colombia
July
27-31 July 2020
3rd OEWG
Cali, Colombia
September
15-30 September 2020
UNGA 75
New York
Opportunity to raise the political profile of the post-2020 processes
October
5-9 October 2020
ICCM5
Bonn, Germany
15-28 October 2020
CBD COP15
China
2021
February 2021
UNEA 5
May 2021
BRS COPs
September 2021
UNGA 76
November 2021
Minamata COP 4
Additional opportunity to raise the political profile of the post-2020 processes

Annex 1

GENERIC AND SPECIFIC INDICATORS FOR ASSESSING PROGRESS IN THE ATTAINMENT OF THE AICHI BIODIVERSITY TARGETS, INCLUDING AN ASSESSMENT OF THEIR MAIN CHARACTERISTICS

The table below identifies a set of indicators for assessing progress in the attainment of the Aichi Biodiversity Targets. Both generic and specific indicators have been identified. The generic indicators identify types of issues that could be monitored while the specific indicators are those operational indicators that can be used to monitor changing trends in these issues. Only indicators which are currently available or are under active development have been included in the table. Further for each specific indicator that is currently available their alignment to the set of criteria identified by SBSTTA in recommendation XIX/4 has been indicated. For those indicators which are under active development, this information will be completed once the indicator is operational at the global level. The criteria considered were the availability of the indicator; its suitability for communication; possibility for aggregation or disaggregation of data used and its use in the third or fourth edition of the *Global Biodiversity Outlook*. The source of the indicator has also been indicated. Relevant indicators agreed by the United Nations system for the Sustainable Development Goals have been included in the table. In many cases the identified indicators are relevant to several Aichi Biodiversity Targets. However each indicator has only been included in the table once in order to limit the size of the table, with each indicator listed according to the Aichi Biodiversity Target to which it is most relevant. In some cases no specific indicator has been identified for the generic indicator. These represent gaps that need to be addressed.

Aichi Biodiversity Target	Generic Indicator	Specific Indicator	Available today (X) or under active development (Y)	Easy to communicate	Global indicator can be disaggregated to create national indicator or is aggregated from national data	National data are aggregated to form	Used in GBO3/ GBO4	SDG indicator	Source
Target 8 - By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity	Trends in pollutants	Trends in emissions, NOX	X	X	X	X	X		International Nitrogen Initiative
		Trends in emissions, SOX	X	X	X	X			International Nitrogen Initiative
		Trends in emissions, POPs	X	X	X	X			Stockholm Convention
		Trends in mercury emissions	X						UNEP
		Trends in pesticide use	X	X	X	X	X		FAO
		Index of Coastal Eutrophication (ICEP) and Floating Plastic debris Density (indicator SDG target 14.1)						X	
		Mortality rate attributed to household and ambient air pollution (indicator SDG target 3.9)						X	
		Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe WASH services) (indicator for SDG target 3.9)						X	
		Mortality rate attributed to unintentional poisoning (indicator for SDG target 3.9)						X	
	Trends in extinction risk and populations driven by pollution	Red List Index (impacts of pollution)	X	X	X		X		IUCN, BirdLife International and other Red List Partners
	Trends in ecosystems affected by pollution	Water Quality Index for Biodiversity	X				X		UNEP GEMS Water
	Trends in nutrient levels	Trends in nitrogen deposition	X	X	X				International Nitrogen Initiative
		Trends in loss of reactive nitrogen to the environment	X	X	X	X	X		International Nitrogen Initiative
		Trends in global surplus of nitrogen	X	X	X		X		Netherlands Environment al Assessment Agency (PBL)
		Proportion of bodies of water with good ambient water quality (indicator for SDG target 6.3)						X	
		Percentage of wastewater safely treated (indicator for SDG target 6.3)						X	

Annex 2

GEF-7 Core Indicators for Pollution, C&W

GEF-7 CORE INDICATORS:

1. Terrestrial protected areas created or undeimproved management for conservation and sustainable use (hectares).
2. Marine protected areas created or under improved management for conservation and sustainable use (hectares).
3. Area of land restored (hectares).
4. Area of landscapes under improved practices (hectares; excluding protected areas).
5. Area of marine habitat under improved practices to benefit biodiversity (hectares; excluding protected areas).
6. Greenhouse gas emissions mitigated (metric tons of carbon dioxide equivalent).
7. Number of shared water ecosystems (fresh or marine) under new or improved cooperative management.
8. Globally over-exploited fisheries moved to more sustainable levels (metric tons).
9. Reduction, disposal/destruction, phase out, elimination, and avoidance of chemicals of global concern and their waste in the environment and in
10. processes, materials, and products (metric tons of toxic chemicals reduced).
11. Reduction, avoidance of emissions of POPS to air from point and non-point sources (grams of toxic equivalent gTEQ).
12. Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment.

Core Indicator 5	**Area of marine habitat under improved practices to benefit biodiversity**	***(Hectares)***
Indicator 5.2	Number of large marine ecosystems (LMEs) with reduced pollution and hypoxial (number)	
Indicator 5.3	Amount of Marine Litter Avoided (metric tons)	
Core Indicator 9	**Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products**	***(Metric Tons)***
Indicator 9.1	Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)	
Indicator 9.2	Quantity of mercury reduced (metric tons)	
Indicator 9.3	Hydrochloroflurocarbons (HCFC) Reduced/Phased out (metric tons)	
Indicator 9.4	Number of countries with legislation and policy implemented to control chemicals and waste (number of countries)	
Indicator 9.5	Number of low-chemical/non-chemical systems implemented particularly in food production, manufacturing and cities (number)	
Indicator 9.6	Quantity of POPs/Mercury containing materials and products directly avoided (metric tons)	
Core Indicator 10	**Reduction, avoidance of emissions of POPs to air from point and non-point sources**	***(grams of toxic equivalent gTEQ)***
Indicator 10.1	Number of countries with legislation and policy implemented to control emissions of POPs to air (number of countries)	
Indicator 10.2	Number of emission control technologies/practices implemented (Number - metric tons)	