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**Programme of work and budget, and other  
administrative and budgetary issues**

**Implementation plan “Towards a Pollution-Free Planet”**

**Proposal by the Executive Director**

*Summary*

In 2017, member States adopted a ministerial declaration as a key outcome of the third session of the United Nations Environment Assembly of the United Nations Environment Programme (UNEP). In the declaration, ministers for the environment requested the Executive Director of UNEP to prepare an implementation plan on the issue of a pollution-free planet for consideration by the Environment Assembly at its fourth session. The present proposal has been prepared in response to that request.

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## I. Introduction and summary

1. The World Health Organization estimates that 23 per cent of all deaths worldwide – amounting to 12.6 million people in 2012 – are due to environmental risks.<sup>1</sup> Low-income and middle-income countries bear the brunt of pollution-related illnesses, with a disproportionate impact on children, women and the most vulnerable. According to the Lancet Commission on Pollution and Health, the costs of pollution in low- and middle-income countries amount to 2 per cent of gross domestic product and up to 7 per cent of annual spending in terms of health care costs.<sup>2</sup>

2. Every year, between 4.8 and 12.7 million tonnes of plastic are leaked into the ocean due to inadequate waste management.<sup>3</sup> According to the United Nations Environment Programme (UNEP), marine litter costs \$13 billion per year in environmental damage to marine ecosystems, including financial losses by fisheries and tourism.<sup>4</sup> The latest *Global Environment Outlook*, “Healthy Planet, Healthy People”, and the latest *Global Chemicals Outlook* also stress pollution as a key issue requiring urgent and coherent action.<sup>5</sup>

3. Gender, environment and development are thoroughly enmeshed:<sup>6</sup> pollution not only has a negative impact on the environment, it also creates unequal pressures and health consequences for women and men, girls and boys and vulnerable groups to which they belong. Narrowing down gender gaps through gender-sensitive actions on pollution would increase society’s productivity and reduce poverty and hunger appreciably.

4. Addressing pollution thus reduces the burden of disease, helps the environment, improves quality of lives, especially of women and children, reduces the impacts on human health and human capital and avoids income and productivity losses. By acting to prevent, better manage and reduce pollution at the regional, national and local levels, governments and stakeholders put themselves on a path to meeting the Sustainable Development Goals (SDGs), a prime responsibility of member States. In addition, acting on pollution constitutes an important contribution to achieving the SDGs and the 2030 Agenda for Sustainable Development.

5. As the global authority on the environment, UNEP focuses on strengthening the science-policy interface to support policy actions, raises awareness of the health and environmental impacts of pollution and supports countries in their efforts, both directly and through partnerships. It exercises its leadership and convening role in the United Nations system and with other partners on environmental matters by promoting coherence and bringing together all relevant actors to catalyse action.

6. As is pointed out in the ministerial declaration of the United Nations Environment Assembly at its third session, the need for rapid, large-scale and coordinated action against pollution cannot be overstated, and moving towards a pollution-free planet is a long-term endeavour. Shaping a pollution-free planet and contributing effectively and equitably to the SDGs in doing so requires ambition. It requires system-wide transformation and strengthened capacities – global, national and subnational – to act on air, water, soil, marine and coastal pollution and sound management of chemicals and waste. Capacities are needed in the areas of (a) knowledge about pollution and its sources, fate, pathways and impacts; (b) the regulatory, financial and institutional means to implement and enforce; (c) infrastructure for managing and preventing pollution; (d) awareness of the impacts of pollution on health, productivity and the environment, as well as of the production and consumption choices that cause pollution; and (e) leadership to direct and act on pollution solutions.

7. The move towards a pollution-free planet is a collective responsibility. The implementation plan looks to member States, as well as to development partners, United Nations agencies, faith-based groups, non-governmental organizations, local authorities and communities, businesses, the financial

<sup>1</sup> Prüss-Ustün, A., and others (2016), *Preventing Disease through Healthy Environments: A Global Assessment of the Burden of Disease from Environmental Risks*, World Health Organization, Geneva. Available at [https://www.who.int/quantifying\\_ehimpacts/publications/preventing-disease/en/](https://www.who.int/quantifying_ehimpacts/publications/preventing-disease/en/).

<sup>2</sup> Landrigan, Philip J., and others (2017), *The Lancet Commission on Pollution and Health*. Available at [https://doi.org/10.1016/S0140-6736\(17\)32345-0](https://doi.org/10.1016/S0140-6736(17)32345-0).

<sup>3</sup> Jambeck, J. R., and others (2015), “Plastic Waste Inputs from Land into the Ocean”, *Science*, vol. 347, no. 6223, pp. 768–771. Available at <https://doi.org/10.1126/science.1260352>.

<sup>4</sup> UNEP (2014), *Valuing Plastics: The Business Case for Measuring, Managing and Disclosing Plastic Use in the Consumer Goods Industry*. Available at <http://wedocs.unep.org/handle/20.500.11822/9238>.

<sup>5</sup> UNEP (forthcoming), *Global Environment Outlook 6: Healthy Planet, Healthy People*. Will be available at <https://www.unenvironment.org/global-environment-outlook>.

<sup>6</sup> UNEP (2016), *Global Gender and Environment Outlook: The Critical Issues*. Available at <http://wedocs.unep.org/handle/20.500.11822/7628>.

sector and young people to deliver on this vision. UNEP itself will contribute to the implementation plan through its programme of work and by enhancing impact through coordination of ongoing efforts globally and catalysing action through partnerships.

8. The implementation plan (a) takes forward pollution-related Environment Assembly outcomes, (b) proposes action areas with opportunities and solutions to address capacity gaps and challenges, and (c) contributes to implementing the SDGs by accelerating progress towards the targets through preventing and combating pollution. It promotes the wider sharing of the good experience/knowledge that already exists for acting on pollution. It includes preventive and remedial aspects, for both the near and longer terms, and is both normative and operational. It builds on existing UNEP work and initiatives and focuses on the challenges that are common to the air, water, land/soil, marine and coastal, and chemicals and waste dimensions of pollution.

9. The vision, main objectives, scope, audience, action areas, expected outcomes, time frame and reporting on progress of the implementation plan are summarized in table 1.

Table 1  
Summary of the implementation plan

<b>Vision</b>	Towards a pollution-free planet
<b>Objectives</b>	<ul style="list-style-type: none"> <li>✓ To facilitate the implementation of Environment Assembly resolutions addressing pollution</li> <li>✓ To increase the linkages with pollution-related forums and global efforts such as the SDGs, multilateral environmental agreements and strategic approaches, including the Strategic Approach to International Chemicals Management (SAICM) and the Global Programme of Action</li> <li>✓ To accelerate and scale up action to address pollution</li> <li>✓ To help countries at different levels of development to leapfrog by learning from each other on successful experiences in dealing with pollution</li> <li>✓ To sustain and increase global awareness of pollution and its consequences on ecosystems and human health and well-being</li> <li>✓ To monitor and report on progress towards a cleaner planet</li> </ul>
<b>Scope</b>	✓ Air, water, land/soil, marine and coastal pollution and the crosscutting issues of chemicals and waste
<b>Audience</b>	<ul style="list-style-type: none"> <li>✓ Ministers, officials, policymakers and other stakeholders who can influence decisions and action towards a pollution-free planet</li> <li>✓ Business, industrial sectors, civil society, communities and citizens, who can set voluntary pollution reduction targets and take accelerated, measurable actions.</li> <li>✓ People whose lives and livelihoods are affected by pollution</li> </ul>
<b>Action areas</b>	<ul style="list-style-type: none"> <li>✓ Knowledge: science for evidence-based policy and action</li> <li>✓ Implementation: Strengthening of implementation, design of incentives, integrated policy assessments, regulatory innovations, enhanced capacity-building and enforcement and financing</li> <li>✓ Infrastructure: Technologies, innovation and circularity (sustainable consumption and production/resource efficiency)</li> <li>✓ Awareness: Outreach, communication, education and consumer information</li> <li>✓ Leadership: Mobilization of stakeholders, leaders and partners to address different forms of pollution</li> </ul>
<b>Main expected outcomes</b>	<ul style="list-style-type: none"> <li>✓ UNEP partners with leaders from national and local governments, business and financial sectors, international and local communities and non-governmental organizations act to make pollution prevention and management a priority</li> <li>✓ Stakeholders demonstrate greater knowledge on pollution, environment and health linkages and solutions to address those linkages</li> <li>✓ Countries strengthen regulatory and policy frameworks and access to financing to prevent and control pollution, with capacity-building support</li> <li>✓ Countries share good practices, technologies and innovative solutions to avoid pollution and reduce the impact of pollution where it occurs</li> <li>✓ Countries have effectively implemented the international conventions, frameworks and approaches they have agreed to be part of, or similar measures for the achievement of the sound management of chemicals and wastes</li> <li>✓ A cleaner world over time</li> </ul>
<b>Time frame</b>	The horizon of the implementation plan is 2030; however, activities are initially articulated for a three-year period (2019–2021), in line with the UNEP medium-term strategy for 2018–2021 and the UNEP programme of work, to allow for concrete results and adjustments based on new Environment Assembly resolutions

<b>Vision</b>	Towards a pollution-free planet
<b>Reporting on progress on action to address pollution</b>	<ul style="list-style-type: none"> <li>✓ Self-reporting on voluntary commitments by member States and stakeholders</li> <li>✓ National reporting of action on pollution through self-reporting at future Environment Assembly sessions</li> <li>✓ Capacity and policy indicators used to report action to prevent and manage pollution and identify areas for more support</li> </ul>

## II. Contributing to implementation of the Sustainable Development Goals by focusing on pollution

10. The implementation plan aims to accelerate and scale up action to reduce pollution and to support countries in implementing the 2030 Agenda and achieving the SDGs. Annex I shows how action on the various dimensions of pollution contributes to the SDGs.

11. The implementation plan has three main components:

- (a) Providing visibility, tracking and reporting on action taken on pollution and pollution status by:
  - (i) Using the #BeatPollution platform for countries to report on voluntary commitments;
  - (ii) Enabling national reporting of actions on pollution through self-reporting at future sessions of the Environment Assembly;
  - (iii) Using summary reports to track how the world is doing in terms of addressing pollution;
- (b) Increasing coordination and sharing of knowledge, good practices and innovative solutions to pollution by:
  - (i) Facilitating the sharing of knowledge and solutions on pollutions, highlighting existing tools, such as the model law and guidance for regulating lead paint, Pollutant Release and Transfer Registers, etc.;
- (c) Enhancing the opportunity of global, regional and city level cooperation on solutions to pollution by:
  - (i) Implementing pollution-related mandates from the Environment Assembly through the UNEP programme of work (see annex 2);
  - (ii) Developing high-impact solutions/accelerators through partnerships.

### A. United Nations Environment Assembly outcomes: mandates from resolutions

12. At the first session of the Environment Assembly, in 2014, member States adopted resolutions on chemicals and waste, marine litter and microplastics and air quality. Chemicals and waste and marine litter and microplastics were also the subject of resolutions adopted at the second session of the Environment Assembly, in 2016. The third session of the Environment Assembly, in 2017, was held with the overarching theme of “Towards a Pollution-Free Planet” and saw the adoption of nine pollution-related resolutions, including resolutions addressing marine litter and microplastics and air quality, as well as chemicals and waste within a broader resolution on environment and health. Figure 1 shows the various pollution-related resolutions adopted by member States at the first, second and third sessions of the Environment Assembly.

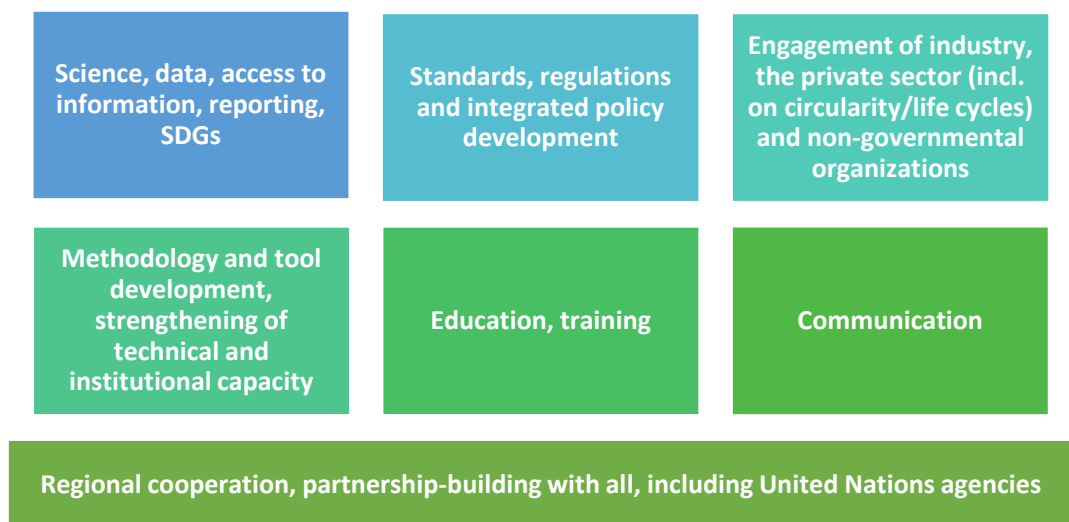
Figure 1  
**Resolutions related to the environment, health and pollution adopted by member States at the first, second and third sessions of the Environment Assembly**



Note: See annex II for a list of the relevant elements in these resolutions.

13. Given their cross-cutting nature, the many Environment Assembly resolutions related to chemicals, waste and pollution, including on environment and health, have deepened the need for synergistic thinking on chemicals, waste and pollutants. The implementation plan is designed to serve this purpose. The main types of activities covered by the operational paragraphs of the pollution-related resolutions are shown in figure 2.

Figure 2  
**Main types of activities to address pollution called for in the Environment Assembly resolutions**



**B. Building momentum: #BeatPollution voluntary commitments and pledges**

14. In the run-up to the third session of the Environment Assembly, the #BeatPollution campaign raised awareness of the many forms of pollution and encouraged individuals, governments, businesses and civil society to commit to taking action and saving lives around the world. Almost 2.5 million pledges were made by citizens on the World Wide Web and social media.

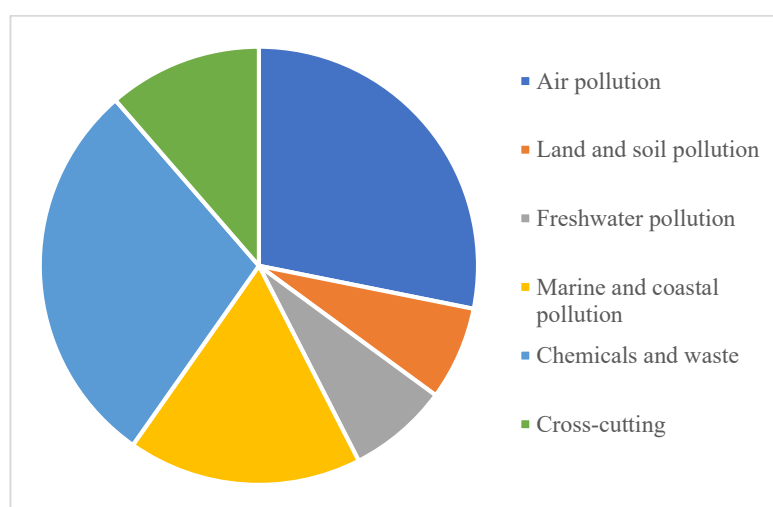
15. About 400 voluntary commitments had been submitted by the end of December 2017 by governments, civil society and business as part of the #BeatPollution campaign. A total of 69 governments, 97 civil-society organizations and 23 businesses provided details of their current and future actions for tackling pollution. The majority of government commitments include policies and actions for directly controlling pollution at source, building resource-efficient, circular economies and raising public awareness. Overall, the commitments fall into four broad categories:

- (a) Expanding existing pollution reduction and control activities and policies
- (b) Removing barriers
- (c) Increasing awareness through education and targeted public-awareness campaigns
- (d) Investing in research and development

16. Tackling pollution through voluntary commitments cuts across all environmental areas, with nearly 60 per cent of commitments targeting air pollution and chemicals and waste; 17 per cent marine and coastal pollution, especially marine litter and plastics; 8 per cent freshwater pollution and 7 per cent land and soil (figure 3).

Figure 3

**Pollution-related voluntary commitments**



17. Examples of voluntary commitments include: adopting and implementing World Health Organization air quality guidelines; providing efficient, affordable public transport; controlling the use of antimicrobials in the livestock sector to avoid releases into the environment; protecting and restoring wetlands and other natural systems that contribute to water purification; extending product lifespan through sustainable design; and removal of lead in paints. The implementation plan encourages the use of the #BeatPollution platform for voluntary self-reporting and sharing of best practices.

**C. A living document: linking with the fourth session of the Environment Assembly and future sessions**

18. The implementation plan is a “living document”, linking past and future sessions of the Environment Assembly. It builds coherence across the pollution-related resolutions of past Environment Assembly sessions and facilitates their implementation. It also encourages national reporting of action on pollution through self-reporting at future Environment Assembly sessions, which will allow the identification of challenges and opportunities faced by countries. The Environment Assembly can then adopt resolutions at its future sessions to meet the remaining challenges and take advantage of opportunities to address pollution. The following box shows capacity gaps and challenges identified by stakeholders for addressing pollution. The implementation plan will require sustained leadership and stakeholder engagement to ensure progress towards a pollution-free planet.

### Capacity challenges and gaps with respect to acting on pollution identified through stakeholder consultations

**Knowledge:** Greater knowledge on the sources of pollution, chemicals content in supply chains, product information, pathways of exposure, impacts and solutions, and alternatives for improved policy choices, regulation, prioritizing of actions and decisions.

**Implementation:** Strengthened regulatory, enforcement and institutional functioning combined with enhanced technical and institutional capacity, finance, knowledge- and experience-sharing on what has worked or not worked are essential for accelerating and scaling up action on pollution.

**Infrastructure:** Infrastructure to monitor, prevent, manage and control pollution is key to developing and adopting better practices, but also reduces exposure to hazards associated with pollution, such as waste dump collapses or flooding of sewage water that can lead to the mobilization of dangerous chemicals from storage.

**Awareness:** Increased awareness of the pollution consequences of consumption choices and better information on risks, available solutions and products to enable consumers to make informed choices.

**Leadership:** The right signals from leadership and political will to act on pollution are key to a cleaner planet. Leadership includes not just political leaders, but also leadership from industry, non-governmental organizations, faith-based groups, young people and the financial sector. Leadership can take the form of campaigns and advocacy, adopting of policies on pollution information disclosure, internalizing pollution costs in product pricing, investments in green technology, green financing and consumer labelling.

## D. Delivering on the Sustainable Development Goals

19. The 2030 Agenda provides an opportunity to enhance and accelerate action on pollution and thus make progress toward the SDGs. Sound management of chemicals and waste is key to avoiding pollution and the associated environment and health damage and social and economic costs, and provides effective ways to achieve the SDGs in a crosscutting, holistic manner. By taking action to prevent, better manage and reduce pollution, governments put themselves on a path to achieving the SDGs.

20. While addressing pollution can support the achievement of all the SDGs (figure 4), some targets are more directly connected to the pollution agenda and the delivery of the implementation plan (annex III). Addressing pollution, in particular, contributes to achieving the following SDG targets:


- Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
- Target 12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
- 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.

21. The implementation plan is aimed at accelerating action to meet these targets. To contribute to the 2030 Agenda, the implementation plan's horizon is 2030. However, activities are articulated initially for a three-year period (2019–2021) to allow for concrete results and adjustments/adaptive management during the medium-term strategy period of 2018–2021, based on lessons learned and progress made.



Figure 4

**The Sustainable Development Goals and linkages to the pollution, environment and health nexus**

 <p><b>1 NO POVERTY</b></p>	Cleaner environments improve worker health and productivity and increase the number of days worked	 <p><b>2 ZERO HUNGER</b></p>	Growing food with careful pesticide use on non-contaminated soils helps to fight hunger and ensure the provision of safe food year-round	 <p><b>3 GOOD HEALTH AND WELL-BEING</b></p>	Action on pollution substantially reduces the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
 <p><b>4 QUALITY EDUCATION</b></p>	A clean environment enables high-quality education, and education enables acquisition of the knowledge and skills needed to promote sustainable development and lifestyles	 <p><b>5 GENDER EQUALITY</b></p>	Pollution reduction can promote gender equality, for example through reduced burden of fetching clean water, cleaner indoor air quality and better health	 <p><b>6 CLEAN WATER AND SANITATION</b></p>	Better managed freshwater ecosystems from cleaner water and fewer chemical pollutants significantly reduce the number of deaths from diarrhoeal diseases
 <p><b>7 AFFORDABLE AND CLEAN ENERGY</b></p>	Access to affordable, reliable, sustainable, modern energy can cut air pollution indoors, which particularly benefits women and children	 <p><b>8 DECENT WORK AND ECONOMIC GROWTH</b></p>	Improved worker health and well-being and toxin-free workspaces lead to increased productivity and economic growth	 <p><b>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</b></p>	Pollution avoidance through the adoption of green technologies and ecosystem-based solutions fosters innovation and sustainability in the industry and infrastructure sectors
 <p><b>10 REDUCED INEQUALITIES</b></p>	Pollution governance and actions can ensure that no group or community bears a disproportionate share of the harmful effects of pollution	 <p><b>11 SUSTAINABLE CITIES AND COMMUNITIES</b></p>	Sustainable transport, waste management, buildings and industry lead to cleaner air in cities	 <p><b>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</b></p>	Resource efficiency and circularity in material and chemical inputs reduce pollution and waste and contribute to sustainable consumption and production
 <p><b>13 CLIMATE ACTION</b></p>	Clean energy and low-carbon policies reduce air pollution and mitigate the impact of climate change	 <p><b>14 LIFE BELOW WATER</b></p>	Action on marine pollution reduces bioaccumulation of toxic substances and habitat destruction, and helps maintain healthy fisheries and ecosystems	 <p><b>15 LIFE ON LAND</b></p>	Integrating ecosystem and biodiversity values into development plans and poverty reduction strategies supports better land management and avoids pollution
 <p><b>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</b></p>	Good pollution-related governance reduces environmental burdens and injustices and can enhance the availability of “saved” resources for the underserved	 <p><b>17 PARTNERSHIPS FOR THE GOALS</b></p>	Global partnerships to address pollution can have positive impacts on health, jobs, worker productivity the environment and well-being		

**III. The added value of the implementation plan**

22. It is important to reiterate that the implementation of this plan is a collective responsibility. It is expected that member States will implement many components of the plan on their own, while UNEP and other intergovernmental organizations will support them while also implementing activities themselves. There are three ways in which the implementation plan adds value to ongoing activities to address pollution: it builds synergies across pollution-related work at UNEP; it provides the “glue” across the various dimensions of pollution through improved coordination, information sharing, communication and reporting; and it allows UNEP to catalyse work with partners and stakeholders to address challenges and provide solutions.

**A. Building synergies across the work of the United Nations Environment Programme in support of action on pollution**

23. All seven UNEP subprogrammes have aspects that support action on pollution:

(a) The chemicals, waste and air quality subprogramme works on sound chemicals and waste management and improving air quality. It addresses air, water and marine pollution through various initiatives, as well as prevention and management of different waste streams through strategic planning, value retention measures and the use of circular approaches. The subprogramme hosts the secretariat of the Strategic Approach to International Chemicals Management (SAICM), which has built an atmosphere of trust and cooperation convening stakeholders to catalyse actions since 2006,

as well as the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, the Global Partnership on Marine Litter, the Global Partnership on Nutrient Management and the Global Wastewater Initiative. It also includes work on specific pollutants, such as lead and pharmaceuticals, including antimicrobials, persistent organic pollutants and mercury, and institutional strengthening at the national level to support the implementation of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the Stockholm Convention on Persistent Organic Pollutants, the Minamata Convention on Mercury and SAICM.

(b) The climate change subprogramme works on carbon dioxide and short-lived climate pollutants such as black carbon, methane, hydrofluorocarbons and tropospheric ozone. Targeted actions to reduce these can have positive climate change mitigation effects and support a reduction in air pollutants that affect health and agricultural productivity and substances that deplete the ozone layer. The subprogramme hosts the Climate and Clean Air Coalition to Reduce Short-lived Climate Pollutants and the Climate Technology Centre and Network.

(c) The various International Resource Panel reports, the *Global Chemicals Outlook* and the upcoming sixth *Global Environment Outlook* state repeatedly that resource efficiency is one of the most effective strategies for decoupling growth from environmental impacts, detoxifying through reduction of waste and pollution and decarbonizing by delinking growth from carbon. The resource efficiency subprogramme is thus an important contributor to carbon mitigation and pollution avoidance and can help raise ambition for climate and pollution action. It works to advance circularity and improve management of waste electrical and electronic equipment (e-waste) at the country level.

(d) The environment under review subprogramme supports pollution efforts through thematic assessments, the *Global Environment Outlook* and Environment Live, as well as the associated indicator reporting platform for the SDGs and the 2030 Agenda.

(e) The environmental governance subprogramme supports work on pollution through gap and trend analysis on regulatory approaches, development of model legislation and technical assistance to develop and strengthen legislation in countries. The programme hosts the Montevideo Programme for the Development and Periodic Review of Environmental Law and helps to promote coherence in United Nations system-wide responses. In this regard, it is worth noting that the Environmental Management Group recently established an e-waste coalition for a coordinated response to address the global electronic waste (e-waste) challenge with support from knowledge partners.

(f) The resilience to disasters and conflicts subprogramme undertakes emergency deployments to address pollution caused by natural disasters, industrial accidents and pollution resulting from armed conflict. It also builds capacity to increase resilience to such pollution events.

(g) Action on pollution contributes to healthy ecosystems, which protect biodiversity. The healthy and productive ecosystems subprogramme builds resilience in ecosystems and sustains ecosystem services by, for example, enhancing water quality through the restoration of wetland areas.

24. The implementation plan adds value to this existing work by building synergies across the pollution-related areas of work, increasing their effectiveness and enhancing visibility through a coherent narrative that speaks to the environment and human health nexus.

## **B. Providing the “glue” across the dimensions of pollution through improved coordination, information sharing, communication and reporting**

25. The implementation plan strengthens coherence and coordination on the pollution aspects of the UNEP programme of work. To achieve this, two cross-cutting functions are proposed: (a) sharing of best practices, policies and strategies and innovative pollution solutions through existing platforms and ensuring that assessment processes feed into this information-sharing; (b) reporting on pollution-related actions, innovative solutions adopted, progress made and trends on pollution challenges, drawing on assessments such as the *Global Environment Outlook*, the *Global Chemicals Outlook* and the global and regional waste management outlooks.

### **1. Information-sharing function: sharing tools and knowledge of good practices and innovative solutions**

26. While pollution is a global issue, priorities and capacities to act on pollution vary by region, country or locality. To create better enabling conditions for member States and all stakeholders to prioritize issues and take action on the particular issues they face, the implementation plan has an

information-sharing function to identify synergies across pollution areas and information on pollution trends and available actions, understand the drivers and impacts of pollution, pollution exposure and related health risks, and share good practices. Such information-sharing will inform decision makers on the various technology and policy options available in different parts of the world, what works and what does not, costs and benefits and the potential to use local solutions based on local knowledge.

27. The function will be delivered through related pollution-relevant knowledge platforms such as the Global Partnership on Marine Litter, the newly established Global Plastics Platform, the Green Growth Knowledge Platform, the sustainable consumption and production clearing house and the knowledge websites and databases of the Organization for Economic Cooperation and Development, the World Bank, the Convention on Biological Diversity, the Climate Technology Centre and Network and the Climate and Clean Air Coalition, among others. It will also be delivered through South-South cooperation, a broad framework for collaboration and exchange among countries of the South in the political, economic, social, cultural, environmental and technical domains, whose primary purpose is to empower countries to shape home-grown responses that reflect similar development experiences. Table 2 lists the deliverables for the function.

28. The information-sharing function will:

(a) Pull together existing policy, legal and other tools designed to address pollution, such as the Inter-organization Programme for the Sound Management of Chemicals Toolbox for Decision-making in Chemicals Management, the model law on lead and guidance developed by the Global Alliance to Eliminate Lead Paint and, in case of air quality, “filling the gaps” reports on air quality and the recently launched “Air Pollution in Asia and the Pacific: Science-based Solutions” report;

(b) Help stimulate sharing of innovative solutions to pollution issues, which can also be cross-media in nature;

(c) Ensure that relevant assessment products from UNEP and other relevant processes such as the *Global Environment Outlook*, the *Global Chemicals Outlook*, the *Global Waste Management Outlook* and the *Global Sustainable Development Report*, as well as those emanating from multilateral environmental agreements, feed into this platform function.

Table 2

**Deliverables for the information-sharing function**

<b>Information-sharing function: stimulating exchanges of good practices and innovative technologies and solutions</b>	
<i>Deliverables:</i>	<p>✓ An online knowledge and innovation function that (1) provides information on environmental degradation, pollution exposure and human health risks and impacts; (2) facilitates the exchange of best practices and collaboration with companies from relevant sectors to share information on new, alternative and existing technologies; and (3) shares tools and maps and stimulates innovative solutions aligned with the Environment Situation Room. The function:</p> <ul style="list-style-type: none"> <li>➤ Disseminates information on existing projects that are helping to reduce or preventing pollution and exposure to pollution, by country and by pollution dimension when relevant, gathers information and links with existing platforms</li> <li>➤ Disseminates information on technologies that are helping to reduce or preventing pollution and exposure to pollution, and where they are used</li> <li>➤ Disseminates information on existing policies to prevent and better manage pollution in countries and across sectors</li> <li>➤ Disseminates information on existing standards, best available technologies and best environmental practices for reducing industrial emissions</li> <li>➤ Supports the adoption and enforcement of legislation on national emissions from industrial sources</li> </ul>

**2. Reporting function: tracking progress of actions towards a cleaner planet**

29. Tracking activities and highlighting progress is indispensable for accelerating action to mitigate environmental degradation and pollution, increase human well-being and promote innovation in a circular economy. The tracking of progress on global action to address pollution will take into account the chemicals and waste objectives and targets for currently being developed in the context of developing a new global regime for the sound management of chemicals and waste beyond 2020. The reporting function and its main deliverable (shown in table 3) will be based on:

- (a) Self-reporting on voluntary commitments to the United Nations Environment Assembly
- (b) National reporting to the Environment Assembly on actions taken through self-reporting

(c) Capacity and policy indicators used to report actions on pollutions and identification of areas for more support

30. A first summary report is planned for 2021 (within the initial three-year period of the implementation plan), with a second tentatively planned for 2031.

Table 3

**Deliverables for the reporting function**

Reporting function: Pollution summary report “Tracking progress: Where is the world in taking action to address pollution?”	
Deliverable:	✓ A first pollution summary report “Tracking progress: Where is the world in taking action to address pollution?” is completed by 2021.

**C. Working with partners and stakeholders to address challenges and provide solutions**

31. The implementation plan draws on partnerships, as UNEP cannot act in isolation. Delivering on the Environment Assembly resolutions already goes beyond UNEP-driven activities, as the resolutions invite member States, United Nations agencies, multilateral environmental agreements and stakeholders, including local governments, non-governmental organizations and the private sector, to take action. The implementation plan aims at reflecting that inclusiveness and collective responsibility.

32. Beyond the Environment Assembly resolutions, the ministerial declaration of the Environment Assembly at its third session offers a unique opportunity for the international community to tackle the main challenges to address pollution and obtain results. It also catalyses efforts of member States and global, regional, national and city authorities and institutions and partners, as well as development banks, to accelerate change and increase their impact to prevent, better manage and control pollution.

33. To scale up action, it is essential to build on existing processes and connect better with the multilateral environmental agreements, initiatives, campaigns and partnerships that are addressing pollution, catalysing action and harnessing synergies. This includes assisting countries in prioritizing the pollution solutions to implement, based on, for example, their impact on human health. Assistance with resource mobilization can also be extended based on country-driven needs assessments and partnership analyses.

34. A partner and stakeholder mobilization strategy involving public, private, multilateral and civil-society organizations will be put in place to support the implementation plan and advance the pollution-free planet agenda at the global, regional and national levels. The strategy will focus on the purpose of the partnership, the contribution the partner can make in terms of efficiency and effectiveness and the partner’s comparative advantage. It will, for example, identify partners based on expertise and skill sets, development orientation, financing and convening power and their ability to establish collaborative arrangements with other partners or stakeholder groups to address pollution challenges and connect countries to the dynamic opportunities of cleaner technology choices.

**1. Building on the strengths of multilateral environmental agreements to tackle pollution**

35. There are a number of multilateral environmental agreements and related frameworks that address pollution directly or provide opportunities to prevent and reduce pollution (table 4). Such agreements are an essential component of the pollution governance framework, providing for targeted, time-bound action. Some also include compliance-related action, monitoring and reporting. They also enable the sharing of resources, technologies, guidelines and best practices for their implementation. Annex IV shows how key global multilateral environmental agreements in the chemicals and waste cluster contribute to preventing, controlling and managing pollution.

36. Given that 80 per cent of marine litter is land-based, the regional seas conventions are of critical importance at the regional level, especially those that have protocols on land-based sources of pollution or legally binding marine litter action plans. Some regional seas conventions, such as the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention), have developed sustainable consumption and production policies with action plans and initiatives that interlink them with the Basel, Rotterdam and Stockholm Conventions.

37. Even though the multilateral environmental agreements are evolving instruments, they may not cover all pollutants. SAICM has helped fill the gap with its process for identifying emerging policy issues through the International Conference on Chemicals Management, including, for example, resolutions promoting the gathering and exchange of information on emerging issues such as perfluorinated chemicals, nanotechnology, endocrine-disrupting chemicals and pharmaceuticals, some

of which warrant additional scientific research to accurately assess their environmental and health impacts.

38. In this context, partnerships can provide the integrating, catalytic and scaling-up power needed to drive layered action and next steps and to complement and strengthen compliance with global and regional environmental agreements.

Table 4

**Multilateral environmental agreements that support action on pollution**

AIR	WATER	SOIL	MARINE AND COASTAL
United Nations Framework Convention on Climate Change (1992), including the Paris Agreement on Climate Change (2015) Convention on Long-Range Transboundary Air Pollution (1979)	Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (1971) Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992) and its Protocol on Water and Health (1999) The Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters (2003) Convention on the Law of the Non-navigational Uses of International Watercourses (1997) NB: Freshwater pollution is also addressed by regional agreements looking at specific transboundary water basins	United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (1994) Chemicals and waste conventions (see below)	Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Dumping Convention) (1971) International Convention for the Prevention of Pollution from Ships (1973) Convention for the Prevention of Marine Pollution from Land-based Sources (1974) International Convention for the Safety of Life at Sea (1980) United Nations Convention on the Law of the Sea (1982) International Convention on Oil Pollution Preparedness, Response and Co-operation (1990) International Convention on Civil Liability for Oil Pollution Damage (1992) Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (not legally binding) Regional seas conventions
<b>CHEMICALS AND WASTE</b>			
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989) Stockholm Convention on Persistent Organic Pollutants (2001) Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (1998) Minamata Convention on Mercury (2017) Strategic Approach to International Chemicals Management (2006) (not legally binding) Vienna Convention for the Protection of the Ozone Layer (1985), Montreal Protocol on Substances that Deplete the Ozone Layer (1987) and the Kigali Amendment to the Montreal Protocol (2016) Chemicals Convention, 1990 (No. 170) Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (1997)			

**2. Catalysing existing partnerships and initiatives addressing pollution**

39. The implementation plan builds on relevant voluntary coalitions, partnerships and alliances (table 5) and focuses on the added value of coordination, collaboration and synergies between related initiatives, emphasizing the link between pollution, environment, climate and health in the priorities of potentially related initiatives that have not yet prioritized pollution. The implementation plan provides an opportunity for these initiatives to better synergize and gain more visibility for their work from a pollution angle. The ability to mobilize and catalyse existing networks of stakeholders, such as city and local authorities' networks or business associations, can have a multiplier effect and be an important factor for success.

Table 5  
Examples of existing global partnerships and initiatives that address pollution directly

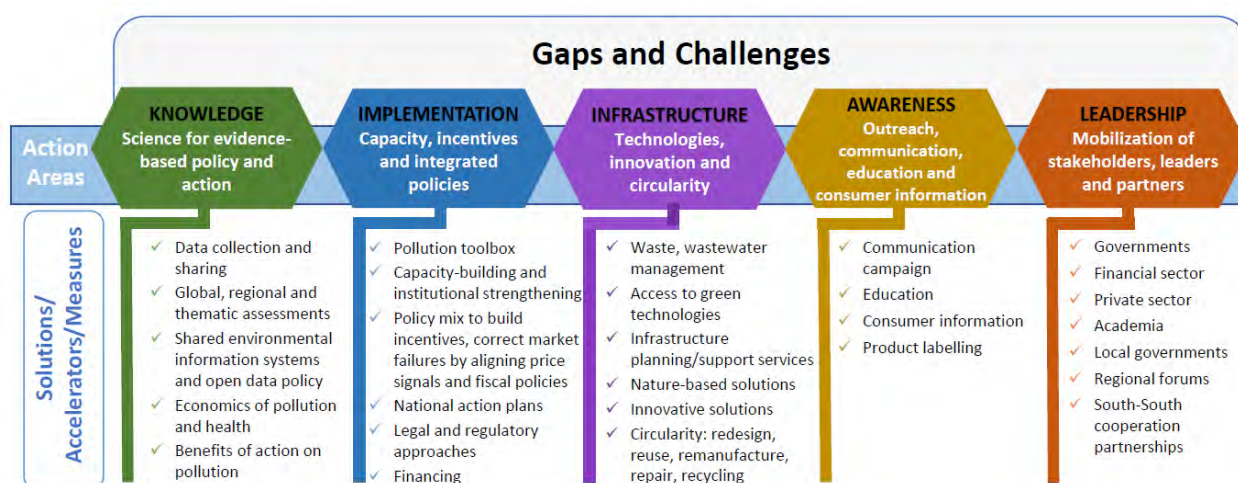
AIR	SOIL	FRESHWATER	MARINE AND COASTAL
Climate and Clean Air Coalition Partnership for Clean Fuels and Vehicles Global Fuel Economy Initiative Global Alliance for Clean Cookstoves United for Efficiency BreatheLife Every Breath Counts Integrated Global Greenhouse Gas Information System Global Platform on Air Quality and Health Global Bioenergy Partnership	Global Partnership on Nutrient Management		
	Global Soil Partnership for Food Security and Climate Change Adaptation and Mitigation Global Battery Alliance	Global Partnership on Marine Litter Global Wastewater Initiative World Aquariums against Marine Litter	
	Sustainable Rice Platform		
CHEMICALS AND WASTE			
UNEP Global Mercury Partnership Global Network for Resource Efficient and Cleaner Production Global Alliance for the Development and Deployment of Products, Methods and Strategies as Alternatives to DDT for Disease Vector Control		Global Alliance on Health and Pollution Global Alliance to Eliminate Lead Paint Global Partnership on Waste Management Global Plastics Platform	

#### IV. Action areas for addressing pollution challenges

40. Despite the ongoing work of various entities, including UNEP and the multilateral environment agreements, pollution challenges exist in most countries, although their nature, scale and related levels of exposure vary. In 2015, SAICM, recognizing the continuous need to understand and address the different challenges and capacities among countries, issued the overall orientation and guidance for achieving the 2020 goal of sound management of chemicals.<sup>7</sup> The implementation plan can make an important contribution to facilitating the use of this guidance, such as by accelerating action in the area of awareness, and to encouraging countries to implement the globally harmonized system of classification and labelling of chemicals.

41. The action areas for addressing the gaps and challenges associated with pollution are knowledge, implementation, infrastructure, awareness and leadership (see also the box following para. 18 above). High-impact solutions, accelerators and measures identified for each action area are shown in figure 5.

Figure 5  
Action areas for addressing pollution



<sup>7</sup> Available from <http://www.saicm.org/Media/Publications/tabid/5507/language/en-US/Default.aspx>.

42. The high-impact solutions/accelerators/measures are aimed at leveraging and accelerating action across all the dimensions of pollution rather than addressing individual pollutant sources. To ensure impact on the ground, actions will need to be scaled to the national and subnational levels, taking into account differences in local contexts and poverty and gender perspectives.

43. UNEP will contribute to each action area to the extent that it is covered by the implementation of the UNEP programme of work and the mandates of the relevant Environment Assembly resolutions. As mentioned above, however, full implementation requires partnership with other United Nations and non-United Nations entities, as well as unilateral action by member States.

## A. Knowledge: Science for evidence-based policy and action

44. Access to pollution-related information has improved dramatically alongside advancements in information technology, but important gaps remain. For example, lack of information on hazardous substances in supply chains remains a major barrier to achieving resource efficiency and a circular economy, as it can significantly reduce product or material reuse and recycling potential. The impact of chemicals in products, e-waste, pharmaceuticals and microplastics on human health needs to be better understood. As some of these chemicals contained have endocrine-disrupting properties, disaggregation of data by gender is needed. The existing evidence of the physical and economic cost of pollution already provides a clear-cut case for immediate action. A more comprehensive picture is required, however, to allow evidence-based decision-making and engage a broader range of ministries by identifying measures that are cost-effective from an environmental, health and economic perspective, prioritizing them and making a case for their adoption and enforcement. Table 6 shows select accelerators and associated deliverables for the knowledge action area.

Table 6

### Accelerators and deliverables for the knowledge gap

Accelerators for knowledge: Science for evidence-based policy and action	
<b>1) Using geo-spatial information to improve decision-making</b>	
Some forms of pollution are highly localized whereas others are diffuse and transboundary. Geographic information systems can provide new opportunities for targeted interventions through the layering of bio-physical and socioeconomic information to map pollution “hot spots”. Where countries so agree, open access to such information in relation to existing pollution sources or pollutants and vulnerable populations would help to address the knowledge gap faced by some countries and allow them to prioritize their actions.	
<i>Deliverable:</i>	✓ Open-source maps using geospatial information on pollution, dynamics of dispersion combined with population density, exposure and risk, protected areas and other bio-physical or socioeconomic datasets
<b>2) Understanding the environment and health nexus through assessment of the cost of pollution to human capital and productivity</b>	
Pollution has significant economic costs resulting from its impact on human health, human capital, productivity, health-care costs and ecosystems.	
<i>Deliverable:</i>	✓ Report on costs of pollution to human capital and implications for poverty reduction
<b>3) Strengthening capacity for analysis of pollution-related information to improve pollution governance</b>	
Countries need to build their capacity to collect and analyse high-quality, timely, comparable information on pollution to improve pollution governance. This includes regulatory and policy data, as well as data on the status of pollution. The availability of national systems that collect and use data to produce statistics indicates the ability to conduct assessments, create geo-spatial maps and evaluate the economics of pollution (see above). Building statistical capacity requires the availability of globally agreed methodologies, training and guidance materials for national statistical systems. Additionally, for this information to become more discoverable at the global level, there is a need to improve global reporting mechanisms (building on those in place for multilateral environmental agreements, the Global Platform on Air Quality and Health, GEMS/Water, the SDG reporting process and other mechanisms).	
<i>Deliverables:</i>	<ul style="list-style-type: none"> <li>✓ Methodologies on water quality, air quality, waste management, hazardous wastes and marine pollution</li> <li>✓ Capacity-building support for countries to improve their ability to compile and use pollution-related statistics</li> </ul>

*Abbreviation:* GEMS/Water, Global Environment Monitoring System/Water Programme.

45. The UNEP knowledge platform Environment Live is designed for sharing data and information. The *Global Environment Outlook* process, the *Global Chemicals Outlook* and regional assessments such as the Africa Assessment, performed under the Climate and Clean Air Coalition Regional Assessment Initiative, are also opportunities to collect data, share information and build

capacity. The *Global Environment Outlook* offers periodic analysis of high-level interactions across all environmental issues; the sixth edition clearly identifies pollution as a key issue requiring attention as part of a systemic approach.

46. A multidisciplinary approach to the environment-health nexus is required to organize and analyse data and information across sectors. Economic analysis, for example, is required to demonstrate the multiple benefits of action on pollution, while linking environment and health data would allow further analysis of how pollution solutions can help tackle health issues. Many of these high-impact actions fall within the scope of the UNEP programme of work, but others call for partnerships.

## B. Implementation: capacity, incentives and integrated policies

47. The ability to take action on pollution depends on having policy instruments in place, whether regulatory, market or voluntary, as well as on enforcement capacity. There is a need for effective instruments and incentives that influence change pathways such as nudging, removal of subsidies that have detrimental aspects and the design of politically acceptable taxes and charges on pollutants. While many relevant policy tools and capacity-building efforts exist, the challenge is to tailor them to concrete issues and to use pollution disclosure information to support enforcement and monitoring. In the context of the rising scale and scope of global value chains, policies and agreements can help internalize the environmental and social costs of pollution while facilitating the development and dissemination of publicly available pollution prevention and abatement technologies, goods and services and the harmonization of approaches and standards. The Organization for Economic Cooperation and Development, for example, includes pollution in the supply chain in its Due Diligence Guidance for Responsible Business Conduct. Instruments such as government procurement, subsidies, tariff reductions for environmental goods and market access for environmental services can provide effective incentives for pollution-reducing technologies and actions and innovative solutions to pollution. The SAICM focus on achieving the 2020 goal of sound management of chemicals is also important, as is the implementation of a globally harmonized system of classification and labelling of chemicals. Table 7 shows select accelerators and associated deliverables for the implementation action area. Existing mechanisms such as the Partnership for Action on Green Economy can act as vehicles for delivering this action area, as can the United Nations development system reforms. The Montevideo Programme can be of special importance here.<sup>8</sup> It is also important to work with cities and national focal points through regional and country offices and the resident coordinator system in partnership with development cooperation agencies.

Table 7

### Accelerators and deliverables for the implementation action area

<b>Accelerators for implementation: Capacity, incentives and integrated policies</b>	
<b>1. A pollution solutions policy toolbox</b>	
There are existing methodologies and tools to support integrated policy and decision-making on pollution, environment and health, and new methodologies and tools are expected to be developed. Environment Assembly resolution 3/4 on environment and health also calls for the development of integrated environment and health risk and impact assessment.	
<i>Deliverables:</i>	<ul style="list-style-type: none"> <li>✓ Mapping of existing methodologies and tools on pollution, environment and health.</li> <li>✓ Available methodologies and tools on pollution, environment and health and the results of assessments conducted (when publicly available).</li> </ul>
<b>2. Stimulating good practices through fiscal policy</b>	
Fiscal policy as expressed through revenue-generating measures such as taxes and charges, as well as through government expenditures, can provide cost-effective incentives to curb polluting activities and the use of polluting products. At the same time, by removing existing price distortions that generate perverse incentives, such as environmentally harmful subsidies, fiscal policy reforms could reduce pollution and the associated health impacts. The practice of using fiscal instruments to reduce pollution and the associated health impacts is limited and there is still a knowledge gap on how to optimize such instruments due to a lack of empirical evidence.	
<i>Deliverables:</i>	<ul style="list-style-type: none"> <li>✓ Ongoing collection and dissemination of good practices on effective use of fiscal instruments for pollution reduction</li> </ul>

<sup>8</sup> <https://www.unenvironment.org/explore-topics/environmental-rights-and-governance/what-we-do/strengthening-institutions>.



<b>Accelerators for implementation: Capacity, incentives and integrated policies</b>	
	✓ An evaluation of the performance of fiscal policy instruments through a few country-specific studies that sheds light on the effective use of fiscal policy for pollution reduction
<b>3. Integrated cross-sectoral capacity-building on pollution, environment and health</b>	
Barriers between the environment and health communities and other sectors result in a lack of preventive action on pollution that could save lives, reduce the burden on the health system and health costs and enhance worker productivity. In addition, as indicated in the World Bank evaluation report on pollution, countries frequently struggle to identify pollution priorities. *	
<i>Deliverable:</i>	✓ A capacity-building programme in partnership with other United Nations entities and in line with Environment Assembly resolutions on pollution, environment and health in countries/cities targeting mid-level decision makers, industry managers and officials across relevant sectors to: <ul style="list-style-type: none"> <li>➤ Support countries and cities in prioritizing pollution concerns in countries and a range of policy and regulatory options, based on an environment, health and pollution country/city assessment, and pave the way for more demand for infrastructure that prevents or reduces environmental degradation.</li> <li>➤ Build a network of partners to provide sustained policy and technical assistance for implementation of local solutions that demonstrate the highest economic, environment, climate and health co-benefits.</li> </ul>

\* Independent Evaluation Group (2017), *Toward a Clean World for All: An Evaluation of the World Bank Group's Support to Pollution Management*, International Bank for Reconstruction and Development/World Bank.

48. Many of these actions fall within the scope of the UNEP programme of work while others call for partnerships and initiatives. The newly established Global Plastics Platform will also serve as an accelerator for action on plastics pollution and circularity.

### **C. Infrastructure: technologies, innovation and circularity (sustainable consumption and production/resource efficiency)**

49. Limited infrastructure for pollution management and prevention is a major reason why garbage is found in the environment, plastic litter ends up in the sea and wastewater is discharged untreated. Circular approaches to minimizing waste must be coupled, especially in the short term, with good waste collection, segregation and disposal systems, along with support for servicing and maintaining waste infrastructure. While inroads are being made across the globe, in the short to medium term, many countries still have limited access to the technologies for clean energy, e-mobility, water-saving irrigation systems, waste recycling, wastewater treatment and ecosystem restoration. The maintenance and upgrading needs of existing infrastructure and the value of nature-based solutions (e.g., wetlands for water purification) are often missed when assessing the economics of new projects. The Climate Technology Centre and Network, the International Environmental Technology Centre and other entities can facilitate choices of and access to appropriate, publicly available technologies. The UNEP Environment and Trade Hub also supports trade in clean technology and innovative solutions to pollution.

50. Much greater efforts, however, are required to engage the private sector, which generates most of the technological innovations. There are opportunities to enhance the private sector's role and engagement in SAICM and the sound management of chemicals and waste beyond 2020. Given the public good nature of research and development and the commercial risks typically involved in rolling out new technologies, public-private partnerships are essential for deploying innovative solutions. Such partnerships should also address issues of affordability, local production and skilled labour in connection with the uptake of clean technologies.

51. The deployment of the clean technologies underpinning the action areas requires green financing. Given the public good nature of some infrastructure, in particular infrastructure related to pollution and health, public finance and policy support will be essential. Investment in new infrastructure is growing, but forthcoming research from an international financial institution suggests that spending efficiencies and the right policies are key to such investments. Having sufficient funds to

operate and maintain infrastructure is another important aspect of financing pollution solutions. Table 8 shows the key accelerator and its deliverables for the infrastructure action area

52. Infrastructure provision goes beyond the work of UNEP, requiring the leadership of multilateral development banks. However, UNEP can support this action area by identifying options and cases of innovative ecological infrastructure and nature-based solutions.

Table 8

**Accelerators and deliverables for the infrastructure action area**

<b>Accelerators for infrastructure: Technologies, innovation and circularity</b>	
<b>Making the case for innovative technologies and ecological infrastructure for pollution management and control and sharing of lessons learned</b>	
Innovative technologies and nature-based solutions can play an important role in preventing and managing pollution. The latest World Water Development Report shows that nature-based solutions are key to improving the supply and quality of water and that reservoirs, irrigation canals and water treatment plants are not the only water management instruments available. There are many nature-based solutions that are often not utilized because of lack of knowledge of their existence or maturity. One example is phytoremediation, which uses plants to restore soils contaminated by heavy metals, such as those found at mine dumps and polluted industrial sites. There is a need to bring such innovative technologies and nature-based solutions to the forefront so that they become more widely used. It should be recalled that renewable energy technologies, such as photovoltaic or wind technologies, were considered innovative or niche technologies before becoming widely used.	
<i>Deliverable:</i>	✓ Ongoing identification and dissemination of innovative technologies, including nature-based solutions, and collection of case studies on their use.

**D. Awareness: outreach, communication, education and consumer information**

53. On the consumption side, movement towards a pollution-free planet will require changes in collective and individual mindsets, values and behaviours, alongside changes in policies and regulations. Campaigns on risks, available solutions and pollution prevention and management and teaching materials in education curricula, as well as improved consumer and product information, all play an important role in enhancing awareness and promoting behavioural change at all levels. Greater disclosure of pollution information is needed, through pollutant release and transfer registers and emission inventories, for example, which are mechanisms that track priority pollutants emitted to air, water and land at the national, local or ecosystem level. Pollutant release and transfer registers address the interests of local communities, the broader public and decision makers and their need for a better understanding of which chemicals are emitted from specific facilities, in what amounts. This information helps to raise awareness, which facilitates enforcement.

54. Consumers are key to delivering on this action area. Existing tools include the #CleanSeas, #BeatPollution, #BreatheLife, #BeatPlasticPollution and #BanLeadPaint campaigns, which need to be extended and enhanced. Work by UNEP on consumer information and eco-labelling is, in essence, a partnership with consumers to encourage and enable sustainable consumption behaviours. Table 9 identifies accelerators and deliverables for the awareness action area.

Table 9

**Accelerators and deliverables for the awareness action area**

<b>Accelerators for awareness: Outreach, communication, education and consumer information</b>	
<b>1. Promote consumer information (e.g., product information, information on chemicals in products)</b>	
Consumer information tools are critical to help citizens understand the composition of the products they are buying. Producers need to be given incentives to make such information available to the consumer. In particular, labelling and sharing information on chemicals in products in a manner that is adapted to and understandable by users and increasing information-sharing on chemicals-related exposure and risks can play a major role in driving behavioural change along supply chains. The Guidelines for Providing Product Sustainability Information developed under the One Planet Consumer Information Programme and the SAICM Chemicals in Products programme are two platforms for making progress, in addition and complementary to national labelling and certification initiatives.	
<i>Deliverable:</i>	✓ Increased access to product sustainability information related to pollution

Accelerators for awareness: Outreach, communication, education and consumer information	
2. Support the #BeatPollution campaign	
<p>Public advocacy is indispensable for raising awareness of the pollution issues and risks for human health linked to exposure. If campaigns are to drive behaviour change and support action by multiple actors, however, they need to suggest alternatives to citizens, present available solutions, identify the benefits in areas such as health, economics and climate, focus on win-win options and bring about lifestyles change. Such campaigns are an important means of nudging and supporting decision makers, creating political will, incentivizing governments and the private sector towards greater pollution prevention, control and mitigation and highlighting producer responsibility to provide greener, more sustainable products and services.</p> <p>The #BeatPollution campaign will focus on:</p> <ul style="list-style-type: none"> <li>➤ Monitoring and showcasing the implementation of the voluntary commitments</li> <li>➤ Inspiring citizens, connecting them with the different dimensions of pollution and encouraging them to take concrete action that paves the way for a pollution-free planet*</li> </ul>	
<i>Deliverable:</i>	✓ Continue the existing campaigns: #CleanSeas, #BeatPollution, #BreatheLife, #BeatPlasticPollution and #BanLeadPaint
3. Education programmes on the dynamics of pollution (i.e., causes of pollution, life-cycle of pollutants) and behavioural change in young people	
<p>As the future leaders and inhabitants of the planet, young people need to adopt more sustainable practices in their homes and future workplace. A modular education programme (adapted to young people) will be developed on the links between pollution, environment and health. This educational tool will help raise awareness among students and convey knowledge on pollution, including the linkages with climate change, biodiversity, chemical safety and lifestyle, and on the available solutions.</p>	
<i>Deliverable:</i>	✓ Modules that serve as inputs to ongoing environmental education programmes, in the six United Nations official languages (to the extent possible)

\* UNEP (2017). *Towards a Pollution-Free Planet: Background Report*. Available at <https://www.unenvironment.org/resources/report/towards-pollution-free-planet-background-report>.

55. Many of these high-impact actions are part of ongoing UNEP work but need scaling up and assigned resources within the UNEP programme of work, while others call for partnerships.

## E. Leadership: mobilization of stakeholders, leaders and partners to address different forms of pollution

56. Strong leadership from politicians, donors, civil society and the private and finance sectors, among others, is needed to accelerate and scale up pollution action and raise the level of ambition. Engaging with the financial sector to gear finance towards the pollution agenda is critical to the success of the implementation plan. Championing of pollution issues and voluntary reporting on national actions and cooperation between countries, cities and groups can help bring to the fore success stories and opportunities to share knowledge and experiences of what works and does not work in countries, key sectors and regions. It can reduce asymmetries of information and capacity, leverage actions where they are most needed, highlight the multiple benefits of actions and shift the focus from the global to the local, and vice versa. Partnerships also connect businesses and other stakeholder groups in different parts of the world. It will take vision and commitment, and above all leadership, to raise the bar on industry standards, come up with innovative solutions and put in place policies to unlock private finance. Table 10 describes three accelerators for the leadership action area.

57. The Alliance for High Ambition on chemicals and waste, led by the Governments of Sweden and Uruguay, is one example of leadership to address pollution. With the mandate of SAICM expiring in 2020, countries will consider a new dynamic for the sound management of chemicals and waste beyond 2020 when they meet at the fifth session of the International Conference on Chemicals Management in October 2020. The Alliance was launched to mobilize political engagement for more effective global management of chemicals and waste and ultimately to produce a global agreement on chemicals and waste comparable to the Paris Agreement on climate.

58. Partnership between the UNEP Finance Initiative and with the financial sector can spur investor leadership to demand clean business practices. UNEP can use the Finance Initiative to raise private sector awareness (through the newly established Principles for Sustainable Insurance “Life & Health” work stream, for instance) and through partnerships with multilateral development banks and networks, such as the Principles for Responsible Investment<sup>9</sup> developed by the United Nations Global Compact. Similarly, the Green Fiscal Policy Network, a partnership between UNEP, the German

<sup>9</sup> <https://www.unpri.org/pri/what-are-the-principles-for-responsible-investment>.

Agency for International Cooperation (GIZ) and the International Monetary Fund that facilitates knowledge sharing and dialogue on fiscal policies for an inclusive green economy, can influence finance ministries to take the lead in pricing polluting activities and mobilizing domestic resources to finance clean infrastructure and other pollution prevention, control and mitigation measures. Health practitioners can commit to supporting a cleaner planet for healthy people.

Table 9

**Accelerators and deliverables for the leadership action area**

<b>Accelerators for leadership: Mobilization of stakeholders, leaders and partners</b>	
<b>1) Industry leadership: Encouraging and redirecting finance and investments to reduce/eliminate pollution from existing economic activities</b>	
Financial regulators and institutions have an important role to play in preventing and mitigating pollution and reducing its negative impacts. They can do this, for example, by internalizing pollution costs in financial decisions and supporting positive impacts. Pollution impacts that were previously considered by financial institutions to be externalities are becoming more material. A range of environmental risk analysis tools and techniques are already being developed, including the use of “environmental scenario risk analysis”, which then influence financial flows. Such tools and techniques can also create incentives to reorient financing away from companies and activities that pollute towards greener technologies. Banks and investors can also provide preferential financing for solutions and projects that help to prevent or reduce pollution/environmental degradation. A new “Life and Health” insurance work stream is being created under the UNEP Finance Initiative Principles for Sustainable Insurance Initiative to mobilize life insurers around key topics such as air pollution and resistance to antibiotics.	
<i>Deliverable:</i>	✓ A scoping study assessing ways to engage the financial/industrial sector to support stronger actions on pollution prevention and reduction
<b>2) Regional leadership: Engaging with regional meetings of ministers for the environment and forums and initiatives dealing with environment and health issues</b>	
Regional meetings of environment ministers are important opportunities to act on pollution and reach out to other ministerial departments and sectors. Actions to increase collaboration between health and environment ministries, including to identify joint priority areas, implement national environment and health action plans and agree on mutually supportive and specific activities, are also a feature of a number of regional health and environment initiatives. Such initiatives are closely connected with the pollution agenda, as pollution has significant impacts on human health and well-being. *	
<i>Deliverable:</i>	✓ Support for regional meetings and pollution-related materials and agenda content for regional environment and health forums
<b>3) Promoting the New Plastics Economy Global Commitment with the Ellen MacArthur Foundation</b>	
The Global Commitment provides a framework for committing to and reporting on focus areas, to align action by governments and businesses to transition towards a circular economy for plastics.	
<i>Deliverable:</i>	✓ Establishing a network of leading businesses and governments receiving global recognition as front-runners in the shift towards a circular economy for plastics.

\* Several regions are fostering sectoral coordination between the environment and health sectors through regional environment and health forums, including the African Inter-ministerial Conference on Environment and Health, the Asia-Pacific Forum on Environment and Health, the European Environment and Health Ministerial Process and the League of Arab States Regional Strategy on Environment and Health. See <https://www.unenvironment.org/explore-topics/chemicals-waste/what-we-do/environment-health-and-pollution>.

59. Many of these high-impact actions fall within the scope of the UNEP programme of work, while others call for partnerships.

## V. Delivery of the implementation plan

60. The implementation plan will need to be delivered through partnerships facilitated and coordinated by UNEP. The Secretariat’s role is to coordinate and build on its relevant normative functions and already significant in-house knowledge and actions through the UNEP programme of work. In addition to its normative functions and support for country actions through mobilizing partnerships, UNEP will support the implementation plan through its programme of work as and where activities directly support the plan. The Environment Assembly will oversee the implementation plan through the Committee of Permanent Representatives.

## A. Implementation plan coordination

61. In addition to contributing to the delivery of the implementation plan through its programme of work, UNEP will fulfil the coordination functions needed for the plan to succeed. These include:

- (a) Building synergies
  - (i) Build synergies across UNEP on activities related to the various dimensions of pollution (air, water, marine and coastal, land/soil, chemicals and waste)
- (b) Developing partnerships
  - (i) Work with member States and other partners to support high-impact solutions under each of the five action areas
- (c) Knowledge management - Exchange of best practices and innovative solutions
  - (i) Solution- and information-sharing function
  - (ii) Providing visibility for actions
- (d) Tracking progress and reporting
  - (i) Pollution summary report (2021, 2031)

## B. Resources and budget

62. The implementation plan will require resources. There is a need to mobilize domestic resources, private sector finance, global funds, support from foundations and development finance to address pollution.

### 1. Possible channels of funding to address pollution

63. Some funding for pollution action exists, but more needs to be mobilized. Existing sources that could be further explored include:

- (a) World Bank multi-partner trust fund to support pollution management and environment health: supports low-income countries in various ways that build capacity for action on pollution.
- (b) Global climate funds: provide funding for projects to reduce emissions of carbon and short-lived climate pollutants.
- (c) Global Environment Facility (GEF): supports action on electronic waste, textiles, water quality and integrated city action.
- (d) Development agencies: provide support through actions that support improved health and livelihoods of the poor and promote societal equity in line with the SDGs.
- (e) Framework for the sound management of chemicals and waste beyond 2020: increased ambition may be matched by increased resources.
- (f) Special Programme on Institutional Strengthening for Chemicals and Waste.
- (g) Climate and Clean Air Coalition, Global Alliance for Clean Cookstoves and other such initiatives.
- (h) Private sector: The need for actions and technologies, both upstream (supply chain) and downstream (use/post-use/waste), to move towards green alternatives should make funding available for action on pollution.
  - (i) UNEP programme of work: already supports some pollution action.
  - (j) Other United Nations agencies, such as United Nations Development Programme (UNDP), United Nations Children's Fund, International Labour Organization and United Nations Conference on Human Settlements: may also have funds available for pollution action.
  - (k) Secretary-General's reforms: provide opportunities to work together on the issue of pollution within the UN to better support countries in the implementation of the SDGs.
  - (l) National development budgets and fiscal frameworks: should increasingly take into account pollution prevention, management and control measures. Countries must be encouraged to provide adequate funding for sustainable development and implementation of relevant multilateral environmental agreements in their national budget processes and to recognize the high costs of inaction.

(m) Finance sector: positive impact finance is a potential source of funding.

(n) Philanthropic foundations: potential funding from foundations that support planetary health initiatives.

## 2. Indicative budget for coordination and action areas

64. The functions supported by UNEP will need additional, incremental resources to ensure proper delivery of the implementation plan. Table 11 shows the proposed indicative budget for the annual coordination and activities of the implementation plan, and table 12 shows the detailed activity budget related to the high-impact solutions/accelerators/measures.

Table 11

### Indicative annual coordination and activity budget

COORDINATION AND ACTIVITY BUDGET		ANNUAL BUDGET ESTIMATES
LOCATION	Staff and other costs	(United States dollars)
NAIROBI	Head of coordination unit (P5)	211 200
	Programme officer (P3)	154 800
	Programme assistant (GS)	53 000
	Operational costs	27 600
	Travel	125 000
	Action areas (see below for details)	1 525 610
	<b>Subtotal</b>	<b>2 097 210</b>
	Programme support costs	272 637
<b>Total</b>		<b>2 369 847</b>

Table 12

### Detailed activity budget, by action area

HIGH-IMPACT SOLUTIONS/ACCELERATORS		ANNUAL BUDGET ESTIMATES
KNOWLEDGE		(United States dollars)
1) Using geospatial information to improve decision-making		100 000
2) Understanding the environment and health nexus through assessment of the costs of pollution to human capital and productivity		100 000
3) Strengthening capacity for analysis of pollution-related information to improve pollution governance		150 000
<b>Subtotal</b>		<b>350 000</b>
IMPLEMENTATION		
1) A pollution solutions policy toolbox		50 000
2) Stimulating good practices through fiscal policy		150 000
3) Integrated cross-sectoral capacity-building on pollution, environment and health		200 000
<b>Subtotal</b>		<b>400 000</b>
INFRASTRUCTURE		
1) Making the case for innovative technologies and ecological infrastructure for pollution management and control and sharing lessons learned		150 000
<b>Subtotal</b>		<b>150 000</b>
AWARENESS		
1) Promote consumer information (e.g., product information, information on chemicals in products)		90 000
2) Support the #BeatPollution campaign		150 000
3) Education programmes on the dynamics of pollution (i.e., causes of pollution, life cycle of pollutants) and behavioural change in young people		50 000
<b>Subtotal</b>		<b>290 000</b>
LEADERSHIP		
1) Industry leadership: Encouraging and redirecting finance and investments to reduce/eliminate pollution from existing economic activities		20 610

HIGH-IMPACT SOLUTIONS/ACCELERATORS	ANNUAL BUDGET ESTIMATES
2) Regional leadership: Engage with regional meetings of ministers for the environment and forums and initiatives dealing with environment and health issues	100 000
<b>Subtotal</b>	<b>120 610</b>
<b>CROSS-CUTTING ACTIVITIES FOR INCREASED COHERENCE AND COORDINATION</b>	
1. Information-sharing	100 000
2. Reporting	115 000
<b>Subtotal</b>	<b>215 000</b>
<b>Total</b>	<b>1 525 610</b>

### 3. Contribution of the programme of work of the United Nations Environment Programme to the implementation plan

65. Figure 6 maps the main areas under each UNEP subprogramme that relate to pollution and can therefore potentially contribute to the implementation plan.

Figure 6

#### Elements of the UNEP medium-term strategy for 2018–2021 that contribute to the implementation plan, by subprogramme

<p><b>Climate change:</b> Short-lived climate pollutants Cooling efficiency District energy Renewable energy Low-emission transport Climate technology</p>	<p><b>Resilience to disasters and conflict:</b> Risk reduction Environmental management in fragile States Awareness of, preparedness for and prevention of technological accidents Assistance for environmental emergencies Environmental assessment of toxic</p>	<p><b>Chemicals, waste and air quality:</b> SAICM Environment, health and pollution Support for implementation of chemicals- and waste-related multilateral environmental agreements Global Partnership on Marine Litter Wastewater and nutrient pollution <i>Global Chemicals Outlook</i> <i>Global Waste Management Outlook</i> Sustainable chemistry Ozone-depleting substances Building capacity for air quality monitoring and management Sand and dust storms</p>	<p><b>Resource efficiency:</b> Green Growth Knowledge Platform Knowledge and capacity for inclusive green economies Mainstreaming resource efficiency in development planning Pollution aspects of trade Sustainable consumption and production Sustainable food systems Life-cycle approach Inquiry into the Design of a Sustainable Financial System Aligning private finance with sustainable development</p>
<p><b>Environmental governance:</b> Gaps/trend analysis of legal measures and regulatory approaches for addressing pollution Model legislation or other guidance for developing relevant legislation Technical support for the review, strengthening and development of legislation/regulation to address pollution Contribution to the pollution agenda through implementation of multilateral environmental agreements</p>	<p><b>Environment under review:</b> UNEP Environment Live / Environment Situation Room pollution-related data and information Regional and global environment outlooks Pollution-related thematic assessments Support for environmental networking and reporting Identification of emerging pollution issues</p>		<p><b>Healthy and productive ecosystems:</b> Planning, monitoring and managing water quality Sustainable management of marine and coastal ecosystems Education for sustainability</p>

66. An analysis of the portfolio of projects under implementation and planned has resulted in the identification of a subset of projects that will contribute to a pollution-free planet and therefore to the implementation plan over the next three years (on average a 39 per cent contribution). This equates to an estimated \$196 million in funding for pollution-related work under the subprogrammes over the remainder of the medium-term strategy period of 2018–2021. The estimate should be considered tentative for various reasons, however, including differences in project duration, the multidimensional nature of environmental action, different approaches to the attribution of percentages of direct contributions to pollution action, the inclusion of planned projects without secured funding and other data limitations.

## Annex I

### How addressing the different dimensions of pollution contributes to the achievement of the Sustainable Development Goals

1. By tackling pollution through existing multilateral environmental agreements and other international initiatives, important synergies and multiple benefits can be obtained, including making progress towards meeting at least two thirds of the SDG targets. This could serve as a basis for identifying gaps in our ability to address (emerging) pollution issues, either by strengthening the existing system or developing new responses that are fit for purpose.
2. The following four figures show the Sustainable Development Goals that are supported, either directly (solid arrows/goals) and indirectly (transparent arrows/goals), by addressing (a) air pollution, (b) freshwater pollution, (c) land/soil pollution and (d) marine and coastal pollution through existing multilateral environmental agreements and other international initiatives.





## Annex II

### Mapping of United Nations Environment Assembly resolution elements related to the environment, health and pollution and action areas to address challenges

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
<b>Mandates relevant to action area 1: Knowledge</b>		
3/4: Environment and health	<ul style="list-style-type: none"> <li>✓ Report on the environmental and health impacts of pesticides and fertilizers</li> <li>✓ Encourage research institutions to share the results of studies on the impacts of pesticides on human and environmental health and peer-reviewed epidemiological studies</li> <li>✓ Support member States to identify and characterize the human and animal health risk and the risk to biodiversity and ecosystems arising from anthropogenic antimicrobial resistance in the environment</li> <li>✓ Report on environmental impacts of antimicrobial resistance and the causes for the development and spread of resistance in the environment</li> <li>✓ Assess and report on the health co-benefits of current UNEP climate-change-related projects</li> <li>✓ Include human health factors in UNEP projects on ecosystem valuation and accounting and assess the health co-benefits of its current biodiversity-related projects</li> <li>✓ Include an indicator on health and well-being impacts in the Indicators of Success for the 10-year framework of programmes on sustainable consumption and production patterns</li> </ul>	<ul style="list-style-type: none"> <li>✓ Facilitate dialogue across all levels of government to consider health and biodiversity linkages and strengthen national monitoring capacities and data collection and to develop interdisciplinary education, training, capacity-building and research programmes</li> </ul>
3/7: Marine litter and micro-plastics	<ul style="list-style-type: none"> <li>✓ Support countries in closing data gaps and improving the availability of accessible data on the sources and extent of marine litter and microplastics in the environment</li> </ul>	<ul style="list-style-type: none"> <li>✓ Establish common definitions and harmonized standards and methodologies for the measurement and monitoring of marine litter and microplastics</li> </ul>
3/8: Preventing and reducing air pollution to improve air quality globally	<ul style="list-style-type: none"> <li>✓ Continue to support countries in putting in place affordable air quality networks to raise awareness about pollution levels, and produce regional assessments of capacity needs</li> <li>✓ Support member States in identifying, prioritizing and addressing key sources of air pollution</li> <li>✓ Assess progress made by member States to adopt and implement key actions to improve air quality</li> </ul>	<ul style="list-style-type: none"> <li>✓ Establish relevant systems to monitor air pollution to support improved air quality management</li> <li>✓ Strengthen capacities to develop national and subnational emissions inventories</li> </ul>
3/6: Managing soil pollution to achieve sustainable development	<ul style="list-style-type: none"> <li>✓ Report on the extent and future trends of soil pollution and risks and impacts of soil pollution on health, the environment and food security</li> </ul>	<ul style="list-style-type: none"> <li>✓ Promote research and development that contribute to controlling and managing soil pollution</li> <li>✓ Promote coherent and coordinated data collection and management, and information sharing on soil pollution</li> <li>✓ Develop information systems of polluted sites and programmes that invest in the sustainable land management and research aimed at preventing, reducing and managing soil pollution</li> </ul>
3/10: Addressing water pollution to protect and restore water-	<ul style="list-style-type: none"> <li>✓ Develop a World Water Quality Assessment</li> <li>✓ Support countries in data collection, analysis and sharing</li> <li>✓ Build upon the GEMS/Water Trust Fund to assist developing countries in water quality monitoring</li> <li>✓ Compile and share analytical and technical requirements for water quality testing for contaminants</li> <li>✓ Provide technical support to facilitate monitoring and reporting on SDG 6</li> </ul>	<ul style="list-style-type: none"> <li>✓ Improve water quality data collection and data sharing on a voluntary basis</li> </ul>

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
related ecosystems		<ul style="list-style-type: none"> <li>✓ Establish and improve water quality monitoring networks, promote streamlined national standardized monitoring and reporting mechanisms</li> <li>✓ Continue to improve integration and coordination of the UN on water-related goals and targets</li> <li>✓ Enhance public access to information on water quality status and requirements for different water uses</li> </ul>
3/1: Pollution mitigation and control in areas affected by armed conflict or terrorism		<ul style="list-style-type: none"> <li>✓ Ensure that the data necessary for identifying health outcomes are collected and integrated into health registries and risk education programmes</li> </ul>
2/7: Sound management of chemicals and waste	<ul style="list-style-type: none"> <li>✓ Work with other United Nations entities on the development of relevant data, including supplementary indicators in support of the indicators developed by the United Nations Statistical Commission</li> <li>✓ Issue an overview for policymakers, by the end of 2017, on policies and actions that could be adopted</li> <li>✓ Consider how updates of the <i>Global Waste Management Outlook</i> and the <i>Global Chemicals Outlook</i> could be accorded in timing and approach</li> <li>✓ Issue an update of the <i>Global Waste Management Outlook</i> by the end of 2019</li> <li>✓ Prepare regional waste management outlooks to enhance the availability of information</li> <li>✓ Provide access to available information on best available techniques and technologies</li> <li>✓ Develop work in the field of technology assessment through tools such as a methodology for sustainability assessment of technologies to enable decision makers to select the most appropriate technologies for achieving the environmentally sound management of waste</li> <li>✓ Prepare a report to assist SAICM in considering the opportunities presented by sustainable chemistry</li> <li>✓ Submit an update of the <i>Global Chemicals Outlook</i> by the end of 2018</li> </ul>	
2/8: Sustainable consumption and production	<ul style="list-style-type: none"> <li>✓ Establish implementing measures for the 10-year framework of programmes on sustainable consumption and production patterns</li> <li>✓ Monitor and evaluate progress towards implementing the 10-year framework of programmes on sustainable consumption and production patterns through the indicator framework</li> <li>✓ Support statistical capacity-building in developing countries for adequate measurement, follow-up and review of the 10-year framework of programmes on sustainable consumption and production patterns</li> <li>✓ Facilitate sharing of information and best practices within and between UNEP programmes and activities</li> <li>✓ Continue to provide scientific and expert support through the 10-year framework of programmes on sustainable consumption and production patterns</li> </ul>	<ul style="list-style-type: none"> <li>✓ Improve the availability of information that enables consumers, investors, companies and Governments to make informed decisions</li> </ul>

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
	<ul style="list-style-type: none"> <li>✓ Invite the International Resource Panel to make available reports relevant to this resolution to a future meeting of the Environment Assembly, but no later than 2019</li> </ul>	
2/9: Prevention, reduction and reuse of food waste	<ul style="list-style-type: none"> <li>✓ Explore opportunities to collaborate with UNIDO to expand use of the products of food loss and waste as feedstock for biogas generation and composting</li> </ul>	<ul style="list-style-type: none"> <li>✓ Participate in existing international efforts regarding improved methodologies to better measure food loss and waste generation and the socioeconomic and environmental benefits of achieving efficient and sustainable food systems</li> </ul>
2/11: Marine plastic litter and microplastics	<ul style="list-style-type: none"> <li>✓ Undertake an assessment of the effectiveness of international, regional and subregional governance strategies and approaches to combat marine plastic litter and microplastics</li> <li>✓ Establish harmonized international definitions and terminology, compatible standards and methods and cost-effective monitoring and assessment of marine plastic debris and microplastics</li> </ul>	<ul style="list-style-type: none"> <li>✓ Support research on marine plastic debris and microplastics, including associated chemicals</li> </ul>
1/5: Chemicals and waste	<ul style="list-style-type: none"> <li>✓ Provide compilation of information on techniques for lead and cadmium emission abatement</li> <li>✓ Consider the interlinkages between chemicals and waste policies in the global outlook on waste prevention, minimization and management</li> </ul>	
1/6: Marine plastic debris and microplastics	<ul style="list-style-type: none"> <li>✓ Undertake a study on marine plastic debris and marine microplastics, focusing on identification of the key sources of marine plastic debris and microplastics, possible preventing measures, recommendations for the most urgent actions and specification of areas in need of more research</li> <li>✓ Contribute to the study above (with the secretariats of the Stockholm Convention, the Basel Convention, the Convention on Biological Diversity, the Convention on Migratory Species and the regional seas conventions and action plans)</li> <li>✓ Present the study on microplastics for consideration by the Environment Assembly at its second session</li> </ul>	<ul style="list-style-type: none"> <li>✓ Share relevant information pertinent to the study on marine plastics debris and marine microplastics</li> <li>✓ Provide financial and other support to conduct the study on marine plastics debris and marine microplastics</li> </ul>
1/7: Strengthening the role of UNEP in promoting air quality	<ul style="list-style-type: none"> <li>✓ Facilitate the operation of existing UNEP-supported intergovernmental programmes on the assessment of air quality issues</li> <li>✓ Undertake global, regional and subregional assessments focused on identifying gaps in capacity to address air quality issues</li> </ul>	<ul style="list-style-type: none"> <li>✓ Make air quality data more easily accessible and understandable to the public</li> </ul>
1/9: Global Environment Monitoring System/Water Programme	<ul style="list-style-type: none"> <li>✓ Collaborate closely with member States to identify additional key elements of the GEMS/Water and ensure the necessary resources for GEMS/Water to operate efficiently</li> <li>✓ Initiate discussions on building a consistent database in GEMStat, supporting UNEP Live and informing sustainable development policies</li> </ul>	<ul style="list-style-type: none"> <li>✓ Cooperate with the GEMS/Water in building a reliable global freshwater monitoring and information system</li> <li>✓ Approach GEMS/Water with the aim of supporting and customizing capacity development efforts, improving freshwater monitoring systems and exchanging technology</li> </ul>

(continued)

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
<b>Mandates relevant to action area 2: Implementation</b>		
3/4: Environment and health	<ul style="list-style-type: none"> <li>✓ Develop methods, tools and guidelines to promote integrated environmental and health risk assessments</li> <li>✓ Support countries in developing integrated environment and health policies and measures</li> </ul>	<ul style="list-style-type: none"> <li>✓ Develop, adopt and implement effective measures and national legislation and regulations to minimize the risks posed by chemicals</li> <li>✓ Join and/or implement the Basel, Rotterdam, Stockholm and Minamata Conventions</li> <li>✓ Implement the sound management of chemicals throughout their life cycle</li> <li>✓ Consider putting in place measures to effectively manage waste and wastewater to minimize their contribution to antimicrobial resistance through environmental contamination</li> </ul>
3/7: Marine litter and micro-plastics	<ul style="list-style-type: none"> <li>✓ Facilitate the establishment and implementation of regional and national action plans to prevent and reduce litter and microplastics in the marine environment</li> <li>✓ Provide advice on the most environmentally sound and cost-effective measures to prevent and reduce litter and microplastics</li> <li>✓ Convene meetings of and provide secretariat support for an ad hoc open-ended expert group to (1) examine the barriers to combating marine plastic litter and microplastics; (2) identify response options; (3) identify their costs and benefits; (4) identify their feasibility and effectiveness; (5) identify potential options for continued work, with at least one meeting of the Ad Hoc Open-ended Expert Group to be convened before the fourth session of the Environment Assembly</li> </ul>	<ul style="list-style-type: none"> <li>✓ Prioritize policies and measures to avoid marine litter and microplastics entering the marine environment</li> <li>✓ Implement the recommendations and actions in Environment Assembly resolutions 1/6 and 2/11</li> <li>✓ Develop and implement action plans for preventing marine litter and the discharge of microplastics and encouraging resource efficiency</li> <li>✓ Include marine litter and microplastics in regional and national waste management plans and in wastewater treatment</li> <li>✓ Develop integrated and source-to-sea approaches to combat marine litter and microplastics</li> <li>✓ Step up measures to prevent marine litter and the discharge of microplastics from sea-based sources</li> <li>✓ Include measures to prevent marine litter and the discharge of microplastics in plans to prevent and reduce damage from natural disasters and increasingly severe weather events</li> <li>✓ Prioritize clean-up of the marine environment in areas where marine litter poses a significant threat to human health, biodiversity, wildlife and the coastal ecosystems, conducted in a cost-effective way</li> <li>✓ Encourage innovative approaches such as the use of extended producer responsibility schemes and container deposit schemes</li> </ul>

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
3/9: Eliminating exposure to lead paint and promoting environmentally sound management of waste lead-acid batteries	<ul style="list-style-type: none"> <li>✓ Continue assisting countries in strengthening and enhancing national, subregional and regional implementation of environmentally sound management of waste, including by providing capacity-building, in close cooperation with the Basel Convention secretariat</li> <li>✓ Assist countries in eliminating the use of lead paint, in particular by providing tools and capacity-building for developing national legislation and regulations</li> </ul>	<ul style="list-style-type: none"> <li>✓ Develop, adopt and implement legislation/regulations to eliminate lead paint</li> <li>✓ Undertake actions throughout the value chain, including disposal, to remove the risks such paints pose</li> <li>✓ Develop national strategies to manage the collection of waste lead-acid batteries and address the issue of remediation of contaminated sites</li> <li>✓ Adequately address releases, emissions and exposures from waste lead-acid batteries, including recycling, and utilize appropriate standards and criteria</li> </ul>
3/8: Preventing and reducing air pollution to improve air quality globally	<ul style="list-style-type: none"> <li>✓ Strengthen technical support provided by global and regional networks and enhance institutional capacity to develop air pollution action plans</li> <li>✓ Support developing countries in expanding the use of cleaner fuels for cooking</li> <li>✓ Assist in the implementation of the Global Strategy to Introduce Low-Sulfur Fuels and Cleaner Diesel Vehicles</li> <li>✓ Assist in the implementation of Roadmap for Clean Fuel and Vehicle Standards in Southern and Western Africa and the African Sustainable Transport Forum Action Plan</li> </ul>	<ul style="list-style-type: none"> <li>✓ Integrate and strengthen air pollution management aspects in the national development agenda, and internalize pollution costs</li> <li>✓ Consider using available tools, including the Batumi Action for Cleaner Air, to inspire national action to improve air quality and protect public health and ecosystems</li> <li>✓ Set ambitious ambient air quality standards</li> <li>✓ Put in place policies and measures to prevent and reduce air pollution from their significant sources</li> <li>✓ Include air pollutants that are also short-lived climate pollutants in national action programmes to prevent and reduce air pollution</li> <li>✓ Develop and implement national methane reductions strategies that could target key methane-emitting sectors</li> <li>✓ Prioritize measures to reduce particulate matter that also reduce black carbon emissions</li> <li>✓ Pursue synergies and co-benefits between national clean air policies and policies in key areas and take advantage of synergistic effects of efficient nitrogen management on reducing air, marine and water pollution</li> </ul>
3/6: Managing soil pollution to achieve sustainable development	<ul style="list-style-type: none"> <li>✓ Elaborate technical guidelines for the prevention and minimization of soil contamination</li> <li>✓ Provide support to Governments' efforts to strengthen and coordinate national and regional policies and legislation to curb soil pollution</li> <li>✓ Cooperate in efforts geared at preventing, reducing and managing soil pollution</li> </ul>	<ul style="list-style-type: none"> <li>✓ Formulate new and strengthen existing strategic interventions, policies and legislation, aimed at setting norms and standards to prevent, reduce and manage soil pollution</li> <li>✓ Address soil pollution in an integrated manner through preventive approaches and risk management using available science</li> </ul>
3/10: Addressing water pollution to protect and restore water-related ecosystems	<ul style="list-style-type: none"> <li>✓ Assist developing countries by strengthening their capacity to reach the target of halving by 2030 the amount of untreated wastewater reaching water bodies</li> <li>✓ Support member States in developing programmes that invest in the management of land and ecosystems to prevent pollution of water sources</li> <li>✓ Develop tools to support countries in their efforts to address water pollution, implement integrated water resources management approaches and address water-related impacts of disasters</li> </ul>	<ul style="list-style-type: none"> <li>✓ Use the "Framework for Freshwater Ecosystem Management" to protect and restore water-related ecosystems, create effective governance structures, develop national standards for water quality and set up water quality monitoring</li> <li>✓ Develop and implement policies that related to integrated water resources management and invest in the protection and restoration of water-related ecosystems</li> <li>✓ Improve capacity to tackle accidental pollution risk</li> </ul>

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
	<ul style="list-style-type: none"> <li>✓ Address issues related to water pollution and build upon the 2016 report, A Snapshot of the World's Water Quality, and taking into account the recommendations made by the analytical brief "Towards a Worldwide Assessment of Freshwater Quality"</li> </ul>	<ul style="list-style-type: none"> <li>✓ Strengthen preparedness to address waterborne disease issues, after disasters and during communicable disease outbreaks</li> <li>✓ Strengthen cooperation and exchange knowledge, know-how and best practices</li> <li>✓ Collaborate and share best practices on data collection and monitoring for the purposes of reporting on water quality and quantity</li> </ul>
3/2: Pollution mitigation by mainstreaming biodiversity into key sectors	<ul style="list-style-type: none"> <li>✓ Cooperate with the Secretariat of the Convention on Biological Diversity on the implementation of the decisions of the Conference of the Parties to the Convention on Biological Diversity at its thirteenth meeting, especially on aspects related to pollution mitigation through mainstreaming biodiversity into relevant sectors</li> </ul>	<ul style="list-style-type: none"> <li>✓ Encourage the adaptation of practices for sustainable infrastructure, conservation of landscapes and ecosystems, sustainable use of land and marine spatial planning and introduction of measures to raise awareness of the multiple values of biodiversity</li> <li>✓ Establish, strengthen or foster institutional, legislative and regulatory frameworks</li> <li>✓ Support sustainable consumption and production, the application of clean technologies, the elimination, phasing out or reform of incentives harmful to biodiversity and strengthening of positive incentives</li> <li>✓ Promote the creation of standards and good practice guidelines</li> </ul>
3/5: Investing in innovative environmental solutions for accelerating the implementation of the SGDs		<ul style="list-style-type: none"> <li>✓ Adopt measures for preventing, reducing and reversing ecosystems degradation and loss</li> <li>✓ Promote environmentally sound innovative policies for sustainable industrialization, agriculture, urban development, transport, tourism and trade and sustainable consumption and production in those key sectors</li> </ul>
3/1: Pollution mitigation and control in areas affected by armed conflict or terrorism		<ul style="list-style-type: none"> <li>✓ Take appropriate measures to minimize and control pollution in situations of armed conflict or terrorism</li> <li>✓ Encourage all stakeholders at the national level to participate in the preparation of the national plans and strategies aiming at setting the priorities for environmental assessment and remediation projects</li> <li>✓ Provide technical assistance to implement international agreements on the environmentally sound management of chemicals and wastes and to help build effective environmental governance</li> </ul>
2/7: Sound management of chemicals and waste	<ul style="list-style-type: none"> <li>✓ Coordinate with relevant international stakeholders and support member States on policies and actions for the sound management of chemicals and waste</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reflect the sound management of chemicals and waste as a priority in national sustainable development planning processes, poverty eradication strategies and relevant sector policies</li> </ul>

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
	<ul style="list-style-type: none"> <li>✓ Support the intersessional process agreed on at the fourth session of the International Conference on Chemicals Management to prepare recommendations on the sound management of chemicals and waste beyond 2020, inter alia, to foster the involvement of relevant industry stakeholders</li> <li>✓ Take measures to promote the sound management of chemicals and waste</li> <li>✓ Support countries, particularly developing countries, in the implementation of the integrated approach to financing for the sound management of chemicals and waste</li> <li>✓ Ensure full integration of environmentally sound management of waste in UNEP strategies and policies</li> <li>✓ Strengthen and enhance the work of the International Environmental Technology Centre and capacity-building for national- and municipal-level waste policies, strategies and action plans</li> <li>✓ Facilitate capacity-building and technology demonstration projects to promote the “3R” (reduce, reuse and recycle) approach</li> <li>✓ Provide capacity-building in developing countries, in particular least developed countries, to implement regulatory frameworks and programmes for the recycling of waste lead-acid batteries</li> <li>✓ Solicit feedback from countries and other stakeholders on the proposed plan for updating the <i>Global Chemicals Outlook</i></li> <li>✓ Ensure that the updated <i>Global Chemicals Outlook</i> addresses emerging issues</li> </ul>	<ul style="list-style-type: none"> <li>✓ Consider opportunities to report on how the Basel, Rotterdam, Stockholm and Minamata Conventions contribute to the implementation of Agenda 2030</li> <li>✓ <b>Private sector:</b> Play a significant role in financing and build the capacity of small and medium-sized enterprises for the sound management of chemicals and waste within relevant industrial sectors</li> <li>✓ With all stakeholders, cooperate with UNEP to implement the necessary waste management policies</li> <li>✓ Develop national strategies inter alia by encouraging extended producer responsibility to collect waste lead-acid batteries</li> <li>✓ Adequately address releases, emissions and exposures from waste lead-acid batteries, including recycling, through, for example, appropriate standards and criteria</li> <li>✓ Cooperate in collecting waste lead-acid batteries for processing at regional or national recycling facilities</li> <li>✓ Take measures to ratify, accept, approve or accede to the Minamata Convention on Mercury</li> </ul>
2/8: Sustainable consumption and production		<ul style="list-style-type: none"> <li>✓ Strengthen the enabling conditions for the creation of sound and equitable markets for secondary materials</li> <li>✓ Take steps to achieve SDG 12 and related targets in other SDGs, in accordance with the 10-year framework of programmes on sustainable consumption and production patterns</li> <li>✓ Promote life-cycle approaches, including resource efficiency and sustainable use and management of resources, as well as science-based and traditional-knowledge-based approaches, cradle-to-cradle design and the “3Rs” concept (reduce, reuse and recycle)</li> <li>✓ Promote the integration of sustainability into each stage of the life cycle of goods and services</li> <li>✓ Design and implement national sustainable consumption and production policies and action plans</li> <li>✓ Take ambitious action to implement the 10-year framework of programmes on sustainable consumption and production patterns and to achieve goals and targets of the 2030 Agenda that are related to sustainable consumption and production</li> <li>✓ Promote public procurement practices that are sustainable</li> <li>✓ Further develop and implement sustainable urban development policies that promote resource efficiency and resilience</li> </ul>

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
2/9: Prevention, reduction and reuse of food waste		<ul style="list-style-type: none"> <li>✓ Implement programmes including market-based incentives that reduce food waste, and promote at all stages of the food value chain reuse of edible food</li> <li>✓ Develop programmes to prevent and reduce food loss and waste along the whole food value chain and promote the environmentally sound management of food loss and waste</li> </ul>
2/11: Marine plastic litter and microplastics	<ul style="list-style-type: none"> <li>✓ Evaluate, and possibly implement, the Executive Director's recommendations on the Assembly's resolution 1/6 on marine plastic debris and microplastics including through strengthened national, regional and international measures, cooperation and action plans</li> </ul>	<ul style="list-style-type: none"> <li>✓ Implement the relevant recommendations and decisions of the resolution 1/6, including through national measures and regional, international and cross-sectoral cooperation</li> <li>✓ Collaborate to establish (regional) action plans to combat marine litter</li> <li>✓ Establish and implement necessary policies, regulatory frameworks and measures on the prevention and environmentally sound management of waste</li> <li>✓ Include measures on mitigation and clean-up of abandoned, lost or discarded fishing gear in national and regional action plans to combat marine litter</li> <li>✓ Phase out of the use of primary microplastic particles in products</li> <li>✓ Undertake nationally prioritized measures for avoiding microplastics entering the marine environment, as outlined in the findings of the 2016 study of UNEP on marine plastic debris and microplastics</li> <li>✓ Product manufacturers and others: Consider the life cycle environmental impacts of products containing microbeads and compostable polymers</li> </ul>
1/5: Chemicals and waste	<ul style="list-style-type: none"> <li>✓ Establish and administer the Special Programme trust fund to support institutional strengthening at the national level for implementation of the Basel, Rotterdam and Stockholm Conventions, the Minamata Convention and SAICM, and to provide a secretariat to deliver administrative support to the Programme</li> <li>✓ Continue to support SAICM</li> <li>✓ Invite the director-general of the World Health Organization to assume a leading role in SAICM and to provide resources to its secretariat</li> <li>✓ Continue to build capacity on lead paint through possible regional workshops</li> </ul>	<ul style="list-style-type: none"> <li>✓ Support the implementation and further development of SAICM</li> </ul>
1/6: Marine plastic debris and microplastics	<ul style="list-style-type: none"> <li>✓ Support countries in the development and implementation of national or regional action plans to reduce marine litter</li> </ul>	<ul style="list-style-type: none"> <li>✓ Promote the more resource-efficient use and sound management of plastics and microplastics</li> <li>✓ Take comprehensive action to address the marine plastic debris and microplastic issue through legislation, enforcement of international agreements, provision of adequate reception facilities</li> </ul>



United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
		for ship-generated wastes, improvement of waste management practices and support for beach clean-up activities, as well as information, education and public awareness programmes
1/7: Strengthening the role of UNEP in promoting air quality	✓ Undertake strengthened capacity-building activities on air quality to support Governments	<ul style="list-style-type: none"> <li>✓ Take action across sectors to improve air quality</li> <li>✓ Formulate action plans and establish and implement nationally determined ambient air quality standards, and establish emissions standards</li> <li>✓ Consider becoming parties to the relevant global agreements addressing air pollution, as appropriate</li> </ul>
1/9: Global Environment Monitoring System/Water Programme		✓ Support national capacity development in providing standardization efforts for water-quality-related data collection, analysis, exchange and management, especially in developing countries
<b>Mandates relevant to action area 3: Infrastructure</b>		
3/7: Marine litter and micro-plastics		✓ Encourage innovative approaches such as the use of extended producer responsibility schemes and container deposit schemes
3/9: Eliminating exposure to lead paint and promoting environmentally sound management of waste lead-acid batteries	✓ Consider revising the “Technical Guidelines for the Environmentally Sound Management of Waste Lead-acid Batteries” regarding applying new technologies (Conference of the Parties to the Basel Convention)	
3/8: Preventing and reducing air pollution to improve air quality globally		✓ Engage in regional cooperation on science, technology, policy, measures and best practices
3/10: Addressing water pollution to protect and restore water-related ecosystems	✓ Work with Governments in creating an enabling environment for addressing water pollution, including sustainable wastewater management, which encompasses supportive policies, legislation and regulations, tailored technologies and innovative financial mechanisms	

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
3/2: Pollution mitigation by mainstreaming biodiversity into key sectors		<ul style="list-style-type: none"> <li>✓ Support sustainable consumption and production, the application of clean technologies, the elimination, phasing out or reform of incentives harmful to biodiversity and strengthening and promotion of positive incentives</li> <li>✓ Encourage the adaptation of practices for sustainable infrastructure, conservation of landscapes and ecosystems, sustainable use of land and marine spatial planning and introduction of measures to raise awareness of the multiple values of biodiversity</li> </ul>
3/5: Investing in innovative environmental solutions for accelerating the implementation of the SGDs	<ul style="list-style-type: none"> <li>✓ Facilitate the strengthening of international cooperation by supporting countries in the promotion of innovative environmental solutions</li> </ul>	<ul style="list-style-type: none"> <li>✓ Promote and invest in innovative environmental policy interventions and actions to accelerate the implementation of the 2030 Agenda</li> <li>✓ Promote and facilitate measures to strengthen innovative environmentally sound technologies</li> <li>✓ Promote environmentally sound innovative policies for sustainable industrialization, agriculture, urban development, transport, tourism and trade, and sustainable consumption and production in these key sectors</li> <li>✓ Develop and strengthen partnerships to promote and enhance investment in innovative environmental solutions</li> <li>✓ Facilitate and enhance innovative financing schemes, education, research and development, capacity-building, private and public partnerships and policy coherence</li> </ul>
<b>Mandates relevant to action area 4: Awareness</b>		
3/4: Environment and health	<ul style="list-style-type: none"> <li>✓ Promote sustainable lifestyles and sustainable consumption and production patterns that would benefit the environment and human health through, inter alia, the promotion of public health campaigns</li> </ul>	<ul style="list-style-type: none"> <li>✓ Raise awareness on the negative impacts in wildlife of chemical pollutants (including agro-chemicals, animal drugs and lead ammunition) and encourage research on alternatives</li> <li>✓ Strengthen efforts in the areas of education and training, public awareness, public participation, public access to information and cooperation with regards to linkages between health and environment, noting the newly launched Guidelines for Providing Product Sustainability Information</li> <li>✓ Develop and implement communication strategies on the risks caused by chemical products and waste</li> <li>✓ Increase awareness of the risks to human, animal and environmental health from the improper use of fertilizers and pesticides and promote measures to address them</li> </ul>

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
3/7: Marine litter and micro-plastics		<ul style="list-style-type: none"> <li>✓ Cooperate on knowledge-sharing and awareness-raising, including through the Global Partnership on Marine Litter and its regional nodes</li> </ul>
3/8: Preventing and reducing air pollution to improve air quality globally	<ul style="list-style-type: none"> <li>✓ Support developing countries by cooperating with partners to promote education and public awareness</li> <li>✓ Deliver information to stakeholders on the Climate and Clean Air Coalition</li> </ul>	<ul style="list-style-type: none"> <li>✓ Create awareness, including within the private sector, of the negative environmental, health and socioeconomic impacts of pollution and the economic benefits of taking action</li> <li>✓ Encourage cities and local governments to consider participating in the BreatheLife campaign</li> </ul>
3/10: Addressing water pollution to protect and restore water-related ecosystems		<ul style="list-style-type: none"> <li>✓ Participate in the eighth session of the World Water Forum, to be held in Brasilia from 18 to 23 March 2018</li> <li>✓ Integrate sustainable consumption and production patterns into education and training to promote a shift to sustainable consumption and production</li> </ul>
3/2: Pollution mitigation by mainstreaming biodiversity into key sectors		<ul style="list-style-type: none"> <li>✓ Encourage the adaptation of practices for sustainable infrastructure, conservation of landscapes and ecosystems, sustainable use of land and marine spatial planning and introduction of measures to raise awareness of the multiple values of biodiversity</li> </ul>
3/1: Pollution mitigation and control in areas affected by armed conflict or terrorism	<ul style="list-style-type: none"> <li>✓ For the Executive Director of UNEP to continue undertaking field visits to affected areas, upon the invitation of the affected State</li> </ul>	
2/8: Sustainable consumption and production		<ul style="list-style-type: none"> <li>✓ Facilitate actions, including by exchange of experiences and capacity-building with regard to the life-cycle approach</li> <li>✓ Integrate sustainable consumption and production into education and training</li> </ul>
2/9: Prevention, reduction and reuse of food waste	<ul style="list-style-type: none"> <li>✓ Strengthen efforts to disseminate information on waste management, including on the technologies available to prevent food loss and enable the reuse of food waste (with FAO)</li> <li>✓ Continue to raise awareness of the environmental dimensions of the problem of food waste, and of potential solutions and good practices for preventing and reducing food waste (with FAO)</li> </ul>	
2/11: Marine plastic litter and microplastics		<ul style="list-style-type: none"> <li>✓ Organize/participate in annual awareness-raising campaigns on prevention and environmentally sound clean-up of marine litter, and support and supplement the civil-society-driven beach clean-up days</li> </ul>

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
1/7: Strengthening the role of UNEP in promoting air quality	<ul style="list-style-type: none"> <li>✓ Raise awareness of risks of air pollution and the multiple benefits of improved air quality</li> </ul>	
<b>Mandates relevant to action area 5: Leadership</b>		
3/4: Environment and health	<ul style="list-style-type: none"> <li>✓ Work with relevant organizations on the environment and health nexus to avoid duplication and improve effectiveness</li> <li>✓ Report to the Committee of Permanent Representatives on the ongoing consultations between United Nations agencies on joint activities on climate change, environment and health, including on the preparation of a joint plan</li> </ul>	<ul style="list-style-type: none"> <li>✓ Engage in the work of ongoing intergovernmental regional processes in addressing the health and environment nexus</li> <li>✓ Actively engage in the intersessional process considering SAICM and the sound management of chemicals and waste beyond 2020</li> <li>✓ Follow up on the issues addressed in the Marrakech Ministerial Declaration on Health, Environment and Climate Change</li> <li>✓ Develop strategies to enhance resource efficiency along the full life cycle of products</li> </ul>
3/7: Marine litter and micro-plastics	<ul style="list-style-type: none"> <li>✓ Strengthen the contribution of UNEP to the Global Partnership on Marine Litter</li> <li>✓ Increase and coordinate action to prevent and reduce marine litter and microplastics and their harmful effects</li> </ul>	<ul style="list-style-type: none"> <li>✓ Cooperate on knowledge-sharing and awareness-raising, including through the Global Partnership on Marine Litter and its regional nodes</li> </ul>
3/9: Eliminating exposure to lead paint and promoting environmentally sound management of waste lead-acid batteries		<ul style="list-style-type: none"> <li>✓ Support the development of private sector strategies to eliminate lead paint</li> <li>✓ Cooperate in collecting waste lead-acid batteries for environmentally sound processing at regional or national recycling facilities</li> <li>✓ Become a partner of the Global Alliance to Eliminate Lead Paint</li> <li>✓ Continue to support the Global Partnership on Waste Management</li> </ul>
3/8: Preventing and reducing air pollution to improve air quality globally	<ul style="list-style-type: none"> <li>✓ Support the enhancement of regional cooperation to address air pollution and organize regional communities of practice for air quality management</li> <li>✓ Provide a platform for cooperation and information-sharing and to house capacity-building resources and online tools;</li> <li>✓ Assess gaps in, and opportunities for, mitigation and cooperation with a view to advancing a shared response to addressing air pollution globally</li> </ul>	<ul style="list-style-type: none"> <li>✓ Consider joining or cooperating with relevant global initiatives such as the Climate and Clean Air Coalition and the Global Methane Initiative</li> <li>✓ Engage in regional cooperation on science, technology, policy, measures and best practices</li> <li>✓ Knowledge sharing among existing and any future regional cooperation forums</li> <li>✓ Promote increased cooperation between UNEP and relevant international organizations to strengthen action on air quality</li> <li>✓ Maximize efficiencies and synergies between the contributions of partners and international financing institutions and other funding organizations</li> <li>✓ Strengthen intergovernmental cooperation</li> </ul>

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
		<ul style="list-style-type: none"> <li>✓ Contribute technical and financial support towards regional and national initiatives</li> </ul>
3/10: Addressing water pollution to protect and restore water-related ecosystems	<ul style="list-style-type: none"> <li>✓ Work with Governments in creating an enabling environment for addressing water pollution, including sustainable wastewater management, which encompasses supportive policies, legislation and regulations, tailored technologies and innovative financial mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>✓ Encourage platforms for wastewater and management of nutrients, to help in preventing and mitigating water pollution and to protect and restore water-related ecosystems</li> <li>✓ Increase transboundary water cooperation</li> <li>✓ Facilitate the implementation of the target to halve by 2030 the amount of untreated wastewater reaching water bodies by continuing to work through the Global Wastewater Initiative and other UN-Water members and the private sector</li> </ul>
3/2: Pollution mitigation by mainstreaming biodiversity into key sectors	<ul style="list-style-type: none"> <li>✓ Promote close coordination, collaboration and synergies related to mainstreaming biodiversity</li> </ul>	
3/5: Investing in innovative environmental solutions for accelerating the implementation of the SGDs	<ul style="list-style-type: none"> <li>✓ Facilitate the strengthening of international cooperation by supporting countries in the promotion of innovative environmental solutions</li> </ul>	<ul style="list-style-type: none"> <li>✓ Develop and strengthen partnerships to promote and enhance investment in innovative environmental solutions</li> </ul>
2/7: Sound management of chemicals and waste	<ul style="list-style-type: none"> <li>✓ Work with the director-general of the World Health Organization to enhance that organization's engagement with the emerging issue of environmentally persistent pharmaceutical pollutants</li> <li>✓ UNEP to cooperate with Governments, with the private sector, including industry, and with other non-governmental organizations to continue work on lead and cadmium</li> </ul>	<ul style="list-style-type: none"> <li>✓ Support the Global Partnership on Waste Management and take the lead in partnerships in core areas of environmentally sound management of waste</li> </ul>
2/8: Sustainable consumption and production	<ul style="list-style-type: none"> <li>✓ Continue and strengthen work to facilitate coordinated efforts, including through continued efforts to provide support, analyses and data</li> <li>✓ Strengthen multi-stakeholder partnerships within and between the thematic programmes of the 10-year framework of programmes on sustainable consumption and production patterns, including through strategic linkages with other global initiatives</li> <li>✓ Initiate and strengthen multi-stakeholder partnerships to facilitate sharing and implementation of best practices</li> <li>✓ Explore opportunities to strengthen cooperation in promoting sustainable urban development at the city level</li> <li>✓ Strengthen multi-stakeholder cooperation to advance good practices</li> <li>✓ Broaden the funding resources for the implementation of the 10-year framework of programmes on sustainable consumption and production patterns</li> </ul>	<ul style="list-style-type: none"> <li>✓ Collaborate to invite companies to adopt sustainable practices and continue enhancing the reporting of sustainability information</li> <li>✓ Engaging both public- and private-sector interests, collaborate to initiate partnerships and alliances to find innovative ways of achieving resource-efficient societies</li> <li>✓ Mobilize voluntary contributions to support the Trust Fund of the 10-year framework of programmes on sustainable consumption and production patterns</li> </ul>

United Nations Environment Assembly resolution	Mandates for UNEP alone (in blue) and with partners (in purple)	Mandates for/calls for action by member States alone (in green) and with partners (in yellow)
2/9: Prevention, reduction and reuse of food waste	<ul style="list-style-type: none"> <li>✓ Support the development of multi-stakeholder initiatives that focus on food waste reduction and prevention along the whole food value chain (with FAO)</li> <li>✓ Enhance cooperation with other relevant United Nations agencies to support communities of practice that focus on food loss and waste reduction (with FAO)</li> <li>✓ Continue to participate in ongoing international initiatives to improve the measurement of food loss and waste (with FAO)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Engage in international cooperation to reduce and/or eradicate food loss resulting from contamination at the production stage by sharing technical knowledge and good practices</li> </ul>
2/11: Marine plastic litter and microplastics	<ul style="list-style-type: none"> <li>✓ Coordinate work under the aegis of the Convention on Biological Diversity, the International Whaling Commission, the Convention on the Conservation of Migratory Species of Wild Animals and the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region with other relevant work in the framework of the Global Partnership on Marine Litter</li> </ul>	<ul style="list-style-type: none"> <li>✓ Cooperate on transboundary watercourses</li> <li>✓ Further develop partnerships with industry and civil society and establish public-private partnerships, raise awareness regarding marine plastic debris and microplastics, promote behavioural change and cooperate in the prevention and clean-up of marine plastic debris</li> </ul>
1/5: Chemicals and waste	<ul style="list-style-type: none"> <li>✓ Facilitate cooperation between the interim secretariat of the Minamata Convention, the secretariats of the Basel, Rotterdam and Stockholm Conventions and others to make full use of relevant experience and expertise that may assist countries in joining the Convention</li> <li>✓ Invite the director-general of the World Health Organization to assume a leading role in SAICM and to provide appropriate staff and other resources to its secretariat</li> <li>✓ Consider ways to support the SAICM secretariat, including possible staffing support</li> <li>✓ Consider opportunities for cooperation with the regional centres of the Basel and Stockholm conventions in implementing the regional sound management of chemicals and waste projects</li> </ul>	<ul style="list-style-type: none"> <li>✓ Mobilize financial resources for the Special Programme to support institutional strengthening at the national level for implementation of the Basel, Rotterdam and Stockholm conventions, the Minamata Convention and SAICM</li> <li>✓ Consider ways to improve the involvement and participation in SAICM of all relevant stakeholders to address new challenges</li> <li>✓ Make financial and in-kind contributions to SAICM</li> <li>✓ Consider ways to promote an effective and efficient network of regional centres of the Basel and Stockholm Conventions</li> </ul>
1/6: Marine plastic debris and micro-plastics		<ul style="list-style-type: none"> <li>✓ Cooperate with the Global Partnership on Marine Litter in its implementation of the Honolulu Strategy and facilitate information exchange through the online marine litter network</li> </ul>
1/7: Strengthening the role of UNEP in promoting air quality	<ul style="list-style-type: none"> <li>✓ Explore opportunities for strengthened cooperation on air pollution within the United Nations system</li> </ul>	

Abbreviations: FAO, Food and Agriculture Organization of the United Nations; GEMS/Water, Global Environment Monitoring System/Water Programme; UNIDO, United Nations Industrial Development Organization.

## Annex III

### The Sustainable Development Goal targets and the pollution dimensions

DIMENSIONS OF POLLUTION				
CHEMICALS AND WASTE	AIR	WATER	SOIL	MARINE AND COASTAL
Target 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.				
Target 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.				
Target 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production patterns, with developed countries taking the lead.				
Target 9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.				
Target 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.				
Target 12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.				
Target 12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.				
Target 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.			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.	

DIMENSIONS OF POLLUTION				
CHEMICALS AND WASTE	AIR	WATER	SOIL	MARINE AND COASTAL
<p>Target 12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.</p> <p>Target 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.</p>	<p>Target 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services.</p> <p>Target 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.</p> <p>Target 7.3 By 2030, double the global rate of improvement in energy efficiency.</p> <p>Target 11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.</p>	<p>Target 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.</p> <p>Target 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.</p> <p>Target 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.</p> <p>Target 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.</p> <p>Target 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.</p> <p>Target 6.b By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.</p>	<p>Target 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.</p>	<p>Target 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.</p> <p>Target 14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.</p>



## Annex IV

## Action on pollution under the global multilateral environmental agreements in the chemicals and waste cluster

MULTILATERAL ENVIRONMENTAL AGREEMENT	ACTION AREA				
	KNOWLEDGE: SCIENCE AND DATA FOR EVIDENCE-BASED POLICY	IMPLEMENTATION: CAPACITY, INCENTIVES AND INTEGRATED POLICIES	INFRASTRUCTURE: TECHNOLOGIES, INNOVATION, CIRCULARITY	AWARENESS: OUTREACH, COMMUNICATION, EDUCATION AND CONSUMER INFORMATION	LEADERSHIP: MOBILIZING STAKEHOLDERS, LEADERS AND PARTNERS
Basel, Rotterdam and Stockholm Conventions	<p>The Conventions are science-based, legally binding global treaties aimed at protecting human health and the environment from hazardous chemicals and wastes. Policy decisions taken by their governing bodies, the conferences of the Parties, are underpinned by various scientific assessments.</p> <p>Examples of assessment products from the Basel, Rotterdam and Stockholm Conventions:</p> <ul style="list-style-type: none"> <li>- Technical guidelines on ESM of waste streams and disposal operations, and other manuals, ESM tools developed by expert groups under the Basel Convention</li> <li>- Decision guidance documents prepared by the Chemical Review Committee to consider listing new chemicals under the Rotterdam Convention</li> <li>- Risk profiles and risk management evaluations prepared by the POPs Review Committee to consider listing new chemicals under the Stockholm Convention</li> </ul> <p>Other relevant initiatives:</p> <ul style="list-style-type: none"> <li>- The Science-Policy road map under the Basel, Rotterdam and Stockholm</li> </ul>	<p>The Conventions provide toolboxes for the environmentally sound management of chemicals and wastes, including for risk and impact assessments and for promoting economic incentives (ESM toolbox, e.g., on extended producer responsibility, technical guidelines, other manuals and guidance under the Basel Convention; BAT and BEP risk management evaluation on candidate POPs under the Stockholm Convention)</p> <p>The need for capacity-building and institutional strengthening are set out in the provisions of the Conventions. Capacity-building is provided by parties, regional centres established under the Basel and Stockholm Conventions, the Secretariat and intergovernmental organizations, like GEF in the case of the Stockholm Convention. Capacity-building provided under the Conventions targets pollution areas, as described in the technical assistance plan for the implementation of the Basel, Rotterdam and Stockholm Conventions for the period 2018–2021. Adjustments to the technical assistance</p>	<p>There are several partnerships under the Basel Convention aimed at exchanging knowledge and information on clean technologies and lessons learned / case studies on infrastructure and engaging the private sector in deploying innovative solutions (Household Waste Partnership and Partnership for Action on Computing Equipment). At its eleventh meeting, held in September 2018, the Open-ended Working Group of the Basel Convention recommended that the Conference of the Parties to the Basel Convention establish a new partnership on plastic wastes to address marine plastic litter. This could facilitate the choices of, and access to appropriate, publicly available technologies.</p>	<p>The Conventions disclose information on pollution related to the waste and chemicals covered by the conventions.</p> <p>As part of the evaluation of the effectiveness of the Stockholm Convention, a global monitoring programme on POPs provides monitoring data on the presence of POPs from all regions, in order to identify changes in their concentrations over time, as well as on regional and global environmental transport.</p> <p>Information on chemicals in products for chemicals listed under the Rotterdam and Stockholm Conventions are available through the scientific committees' assessments.</p> <p>National reports under the Basel and Stockholm Conventions provide information and data on the measures taken by a party in implementing the Conventions, including data on POPs produced/released and wastes generated under the Basel Convention.</p> <p>The Basel Convention has developed a manual on extended producer</p>	<p>The Conventions support industry and businesses in reducing their emissions by providing a level playing field within and across countries through their control measures, guidelines and BAT and BEP.</p> <p>Under the Basel Convention, technical guidelines provide for the foundation upon which countries can operate at a standard that is not less environmentally sound than that required by the Convention. These guidelines are developed for a variety of waste streams and disposal operations and are intended to assist Parties, in particular developing countries, in improving their waste management practices. All the technical guidelines developed and adopted under the Basel Convention are available on the website.</p> <p>Under the Stockholm Convention, BAT and BEP guidelines are developed for intentionally produced POPs and unintentionally produced POPs.</p> <p>Conferences of the Parties, and their high-level segments, offer a platform for mobilizing countries and their decision</p>

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	<p>Conventions for further engaging parties and other stakeholders in an informed dialogue for enhanced science-based action in the implementation of the conventions</p> <p>- The clearing-house mechanism that facilitates the exchange of information and expertise relevant to the conventions. This is a global knowledge-based platform providing scientific information, regulatory information, capacity-building information and information on the status of implementation of the conventions (country profiles, chemical assessments, expert roster, alternative chemicals, library of national legislation and plans)</p>	<p>plan to be suggested to the 2019 conferences of the parties will cover marine plastic litter, among other things. A cross-sectoral approach is promoted in delivering technical assistance activities, particularly in the health and agriculture sectors.</p> <p>The Conventions support countries in their efforts to develop legislative and regulatory frameworks through their legally binding provisions.</p> <p>The Conventions offer financing support to countries through established funding mechanisms, like GEF in the case of the Stockholm Convention or the Special Programme on institutional strengthening for all three conventions (which also covers the Minamata Convention and SAICM).</p>		<p>responsibility schemes to collect, treat and safely manage/recycle waste from production and consumption.</p> <p>Various outreach campaigns have been conducted under the Conventions, including the ongoing #detox campaign. The theme of the 2019 conferences of the parties is: “Clean Planet, Healthy People: Sound Management of Chemicals and Wastes”.</p> <p>The Conventions support industry and businesses in reducing their emissions by providing a level playing field within and across countries, through their control measures, guidelines and BAT and BEP.</p> <p>Under the Basel Convention, technical guidelines provide the foundation for countries to operate at a standard that is not less environmentally sound than that required by the convention. The guidelines have been developed for a variety of waste streams and disposal operations and are intended to assist developing-country parties in improving their waste management practices. All the technical guidelines developed and adopted under the Basel Convention are available on the website.</p>	<p>makers (e.g., ministers for the environment, health and agriculture) against pollution.</p>

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				<p>Under the Stockholm Convention, BAT and BEP guidelines are developed for intentionally produced POPs and unintentionally produced POPs.</p> <p>The conferences of the parties and their high-level segments offer a platform to mobilize countries and their decision makers, e.g., ministers for the environment, health and agriculture, to take action against pollution.</p>	
Minamata Convention on Mercury	<p>The Convention is a multilateral environmental agreement that addresses specific human activities contributing to widespread mercury pollution. Implementation of the agreement will help reduce global mercury pollution over the coming decades.</p>	<ul style="list-style-type: none"> <li>- Reduce and where feasible eliminate the use and release of mercury from artisanal and small-scale gold mining.</li> <li>- Control mercury air emissions from coal-fired power plants, coal-fired industrial boilers, certain non-ferrous metals production operations, waste incineration and cement production.</li> <li>- Phase-out or take measures to reduce mercury use in certain products, such as batteries, switches, lights, cosmetics, pesticides and measuring devices, and create initiatives to reduce the use of mercury in dental amalgam</li> </ul>	<p>The Convention requires partnerships with industries and private entities to reduce the process of mercury use in chlor-alkali production</p> <ul style="list-style-type: none"> <li>- Mercury use in the manufacture of polyvinyl chloride and polyurethane significantly reduced</li> <li>- Mercury use in artisanal and small-scale gold mining reduced, and, where feasible, eliminated</li> </ul>	<p>The Convention includes provisions for technical assistance, information exchange, public awareness and research and monitoring. It also requires parties to report on measures taken to implement certain provisions. The Convention will be periodically evaluated to assess its effectiveness at meeting its objective of protecting human health and the environment from mercury pollution. Phased-out products include the following:</p> <ul style="list-style-type: none"> <li>- Batteries</li> <li>- Most switches and relays</li> <li>- Skin-lightening soaps and creams</li> <li>- Pesticides and biocides (including biocides in paints, but not vaccines) and topical antiseptics</li> <li>- Measuring devices (barometers, hygrometers, manometers, thermometers and blood pressure cuffs)</li> <li>- Mercury content of most fluorescent</li> </ul>	

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				lamps (must be below specified levels)	
Montreal Protocol on Substances that Deplete the Ozone Layer	<p>The Protocol requires the review of the state of the ozone layer and the underlying science, the environmental effects of ozone layer depletion and identification of alternatives and their economics and adoption.</p> <p>The review is carried out every four years by the three assessment panels (the Technology and Economic Assessment Panel and its five technical options committees, the Scientific Assessment Panel and the Environmental Effects Assessment Panel) established under the Protocol. The assessment panels also provide annual progress reports for bringing emerging issues to the parties' attention.</p> <p>The assessment panels, especially the Technology and Economic Assessment Panel, are also requested to assess and make recommendations on specific technical issues.</p> <p>The work of the assessment panels forms an important basis for informed decision-making by the parties, including on the strengthening of the Protocol and its provisions.</p> <p>Under the Vienna Convention for the Protection of the Ozone Layer, the</p>	<p>The financial mechanism of the Protocol, including the Multilateral Fund for the Implementation of the Montreal Protocol, provides financial and technical support to Article 5 countries (developing countries) through the four implementing agencies (UNEP, UNDP, UNIDO and the World Bank) to implement projects and activities to enable those countries to comply with their obligations under the Protocol.</p> <p>Projects and activities include preparation of country management plans for phasing out/down controlled substances, industry conversion projects, institutional strengthening and enabling activities.</p> <p>Projects in countries with economies in transition are supported through GEF.</p>	<p>Under the Multilateral Fund and GEF, which finance projects in Article 5 parties and countries with economies in transition, projects to phase out/down controlled substances include innovative, greener solutions used in converting industries and technologies from controlled substances to alternatives.</p> <p>During the phase-out of ozone depleting substances, the redesign and remanufacture of equipment that uses ozone depleting substances to alternatives have resulted in improved functionality, operations and efficiency of the equipment (e.g., in refrigeration and air-conditioning). With the entry into force of the Kigali Amendment to the Montreal Protocol, hydrofluorocarbons will be phased down, taking into consideration energy efficiency and safety issues.</p>	<p>The Ozone Secretariat carries out global communication campaigns on a yearly basis, with a focus on International Ozone Day, celebrated around the world on 16 September. In conjunction with decennial anniversaries of the Vienna Convention and the Montreal Protocol, special campaigns are organized and awards are presented to champions in ozone layer protection.</p> <p>Awareness-raising activities are also incorporated in the institutional strengthening and enabling activities of Article 5 parties supported under the Multilateral Fund. National level policies and activities also address various educational activities, training, information dissemination to consumers, product labelling, etc., some of which are also incorporated into the projects funded by the Multilateral Fund.</p>	<p>Strong and successful partnerships among stakeholders, including governments, industries, academia (scientists/experts/researchers) at all levels (international, regional and national) ensured the successful implementation of the Protocol.</p>

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	Ozone Research Managers forum meets every three years to review international and national programmes on ozone research and observation to identify gaps and recommend ways to address them.				

*Abbreviations:* BAT, best available techniques; BEP, best environmental practices; ESM, environmentally sound management; GEF, Global Environment Facility; POPs, persistent organic pollutants; UNIDO, United Nations Industrial Development Organization.