Contributions of the UN Environment Assembly to the High-level Political Forum on Sustainable Development: Responses to the questions raised by the President of the Economic and Social Council

This paper contains draft contributions of the UN Environment Assembly (the Environment Assembly) to the High-level Political Forum on Sustainable Development (the Forum), which will convene in New York from 9 to 18 July 2018, under the theme "Transformation towards sustainable and resilient societies". The contributions have been prepared in response to the request made by H.E. Ms. Marie Chatardová, President of the Economic and Social Council and Ambassador and Permanent Representative of the Czech Republic to the UN in New York, to H.E. Mr. Siim Kiisler, President of the Environment Assembly and Minister for the Environment of Estonia, using the template provided by the President of the Economic and Social Council.

The contributions have been developed in accordance with the Environment Assembly resolution EA.3/Res.3 on "Contributions of the UN Environment Assembly to the High-level Political Forum on Sustainable Development" and derives, to the extent possible, from the resolutions adopted at the third session of the Environment Assembly, which took place in Nairobi from 4 to 6 December 2017. The contributions also take into account the six Sustainable Development Goals selected for an in-depth review at the Forum in 2018.

As was the case last year, it is expected that the inputs collected from the Environment Assembly as well as from other intergovernmental bodies will form the basis for the "Note by the secretariat: Synthesis of voluntary submissions by functional commissions of the Economic and Social Council and other intergovernmental bodies and forums" issued by the Economic and Social Council secretariat (i.e. Department of Social and Economic Affairs) as one of the supporting documents for the Forum (see 2017 synthesis report).

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Sustainable Development Goals under review at the 2018 Forum

Goal 6. Ensure availability and sustainable management of water and sanitation for all
Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all
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Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

(a) An assessment of the situation regarding the principle of "ensuring that no one is left behind" at the global level

The world continues to remain on the trajectory towards increasing inequity and inequality, both in terms of economic resources and vulnerability to environmental degradation. The third session of the UN Environment Assembly held in Nairobi in December 2017 adopted a ministerial declaration that seeks to combat pollution, which has a disproportionately high impact on the poor.

The world's richest 1% own more than half of the global wealth, while the world's 3.5 billion poorest adults, accounting for 70% of the world's entire working age population, together possess only 2.7% of global wealth.[1] On the other hand, more than 90% of all pollution-related deaths occur in low and middle income countries, with pollution accounting for up to one in four deaths in rapidly industrializing countries like Bangladesh, China, India, Kenya, Madagascar and Pakistan.[2] In addition, most of the 42 million tonnes of electrical and electronic waste produced annually around the world ends up in the developing countries, such as India and Nigeria.[3] In these developing countries, recycling of various elements contained in e-waste such as copper and gold has grown into an informal employment sector, exposing adult and child workers to a range of hazardous substances, directly through toxic fumes and contact and indirectly through seepage into surrounding soil and water.

At the third session of the UN Environment Assembly, which convened in Nairobi from 4 to 6 December 2017, Member States adopted a ministerial declaration entitled *Towards a pollution-free planet* that aims to tackle major pressures on the environment. Through the declaration, Member States committed "to working towards a pollution-free planet for the health and well-being of our people and the environment", acknowledging pollution has differential impact on different populations (text taken directly from the declaration):

1. Every day, 9 out of 10 of us breathe air in which concentrations of air pollution exceed the limits set out in the World Health Organization's air quality guidelines and more than 17,000 people will die prematurely as a consequence. Hundreds of children below the age of five die from diseases caused by contaminated water and poor hygiene daily. Women and girls continue to be disproportionately affected, whether it be as a result of cooking with dirty fuel or walking long distances to find safe water. Every year we dump 4.8 to 12.7 million tonnes of plastic in our oceans and generate over 40 million

[1] Credit Suisse Research Institute. *Global Wealth Report 2017*. Retrieved 8 March 2018, from https://www.credit-suisse.com/corporate/en/research/research-institute/global-wealth-report.html.
[2] Stockholm Resilience Centre. "Pollution and poverty a deadly mix." Retrieved 28 February 2018, from http://www.stockholmresilience.org/research/research-news/2017-10-25-pollution-and-poverty-a-deadly-mix.html
[3] Wang, Z., Zhang B. & Guan D. (3 August 2016). Take responsibility for electronic-waste disposal. *Nature*. Retrieved from https://www.nature.com/news/take-responsibility-for-electronic-waste-disposal-1.20345

tonnes of electronic waste – increasing every year by 4 to 5 per cent – causing severe damage to ecosystems, livelihoods and human health.

2. We believe that it is both inexcusable and preventable that tens of thousands of chemicals are used in everyday objects and applied in the field without proper testing, labelling or tracking. Far too many communities either lack information about the chemicals and hazardous substances they use and are exposed to, or the capacity to manage them safely.

3. However, we also understand that knowledge and technological solutions to reduce pollution already exist, although many stakeholders have yet to explore and implement the many opportunities available. We are encouraged by the numerous success stories of countries, cities and businesses addressing air, soil, freshwater and marine pollution issues. Recent examples of such successes include the adoption of the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer and the entry into force of the Minamata Convention on Mercury.

4. As countries make efforts to combat pollution in support of the 2030 Agenda for Sustainable Development, relevant multilateral agreements and instruments, including the Paris Agreement adopted under the United Nations Framework Convention on Climate Change, we acknowledge the links between pollution, climate change, biodiversity loss and ecosystem degradation. We further acknowledge that pollution disproportionately affects the poor and the vulnerable. Tackling pollution will contribute to sustainable development by fighting poverty, improving health, creating decent jobs, improving life below water and on land, and reducing greenhouse gas emissions.

As mentioned in paragraph 3 above, despite the knowledge and solutions available to reduce pollution, some people are left behind to suffer its deleterious effects because they have neither the “information” nor the “capacity” to manage pollution. In this context, UN Environment Programme spearheads multiple partnerships and activities to disseminate knowledge and build capacities, with the recognition that “lifelong learning on pollution can encourage changes in knowledge, attitudes and practices and empower learners to effect change”.[4] For example, UN Environment Programme offers a massive open online course on nutrient and wastewater management that explains the links between land-based activities and water pollution. UN Environment Programme also supports over 800 higher education institutions from across the world tackle pollution and integrate sustainability through its *Global Universities Partnership on Environment and Sustainability. InforMEA,* a UN information portal on multilateral environmental agreements, provides yet another platform to learn about the legal frameworks governing major environmental challenges.

[4] UN Environment (2017). *Towards a Pollution-free Planet: Background report for the third session of the UN Environment Assembly.*

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Examples of nature's contributions to societies and to individuals, often referred to as ecosystem services, include the provision of food, raw materials and natural resources, cultural identity and support for physical, mental and emotional health; biodiversity generally enhances these services and indeed underpins many of them, e.g. pollination of crops. However, declining biodiversity and degraded ecosystems driven by such external pressures as development, pollution, and land-use change may impact directly and negatively on poorer and vulnerable communities as narrowing sources of food, medicine, fuel and clean water combined with land degradation and soil erosion can create detrimental impacts upon subsistence lifestyles of smallholder farmers, in particular.

Addressing the issues of equity, environment and poverty have been at the heart of work by UN Environment Programme and UN Development Prgramme's Poverty Environment Initiative, and the Convention on Biological Diversity's *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization* provides a framework to define how genetic material is accessed and how benefits from its use are shared between people and countries either using or providing the resource; over 100 countries have now ratified the Protocol. Social equity in the context of protected areas also figures highly in Target 11 of the Convention on Biological Diversity's Aichi Biodiversity Targets. UN Environment Programme have been working alongside partners to improve our understanding of assessing and advancing equity in protected area management.

(b) The identification of gaps, areas requiring urgent attention, risks and challenges

At the third session of the UN Environment Assembly, Member States adopted 11 resolutions and 3 decisions, in addition to the ministerial declaration, Towards a pollution-free planet. These resolutions capture what the Ministers of Environment had identified as areas requiring urgent attention by the international community.

Most of the resolutions adopted at the UN Environment Assembly deal with specific aspects of pollution, which require concerted and coordinated action by all Member States and major groups due to their deleterious impacts both on human and environmental health (text in "quotations" taken directly from the resolutions).

1. "The threats to human health and environment from pollution caused or worsened by armed conflict or terrorism" as well as "environmental damage and depletion of natural resources in territories affected by armed conflict or terrorism" (resolution EA.3/Res.1 on *Pollution mitigation and control in areas affected by armed conflict or terrorism*:
   The environment has often remained the unpublicized victim of war. Water wells have been polluted, crops torched, forests cut down or defoliated, soils poisoned, and animals killed to gain military advantage. Over the last 60 years, at least 40 percent of all internal conflicts have been linked to the exploitation of natural resources, whether high-value resources such as timber, diamonds, gold and oil, or scarce resources such as fertile land and water. Conflicts involving natural resources have also been found to be twice as likely to relapse.

2. "The negative impacts on biodiversity, ecosystem services and health worldwide, caused by pollution of air, land/soil, inland water and oceans" (resolution EA.3/Res.2 on *Pollution mitigation by mainstreaming biodiversity into key sectors*):
It is estimated that the global rates of extinction of species are 1,000 to 10,000 times the "natural background rate", which is about one to five species per year.[5] According to the *Convention on Biological Diversity*, nearly all Parties to the Convention reported that pollution was posing a threat to biodiversity: "In particular, nutrient loading, primarily of nitrogen and phosphorus, is a major and increasing cause of biodiversity loss and ecosystem dysfunction, especially in wetland, coastal and dryland areas."[6]

3. "The burden of disease from environmental risks, which according to recent estimates from the World Health Organization amounts to 23% of total global deaths, and the associated costs to society" (resolution EA.3/Res.4 on *Environment and health*):
According to the *Lancet Commission on pollution and health,* pollution is the world's largest environmental cause of disease and premature death that disproportionately kills the poor and the vulnerable. Nearly 92% of pollution-related deaths occur in low-income and middle-income countries. Children face the highest risks because small exposures to chemicals in utero and in early childhood can result in lifelong disease, disability, premature death, as well as reduced learning and earning potential.[7]

4. "The threat of soil pollution emanating from oil spillages, unsustainable mining practices, unregulated or uncontrolled disposals and emissions of chemicals and heavy metals, wastes, improper use of fertilisers and pesticides in agricultural production, and contamination from landfills" (resolution EA.3/Res.6 on *Managing soil pollution to achieve sustainable development)*:
Soil pollution has huge impact on human and animal health as well as on food security but constitutes an "insidious hazard" because it cannot be directly assessed.[8] Moreover, even the most developed countries that have implemented long-term soil surveys lack a harmonized soil monitoring system that is able to detect the real extent of diffuse soil contamination, which associated with many uncertainties such as soil properties as well as the residence time and level of contaminants.[9]

5. "The high and rapidly increasing levels of marine plastic litter and the expected increase in negative effects on marine biodiversity, ecosystems, animal well-being, fisheries, maritime transport, recreation and tourism, local societies and economies" (resolution EA.3/Res.7 on *Marine litter and microplastics*):
Each year, at least 8 million tonnes of plastics leak into the oceans and without action, the oceans will contain more plastic than fish by 2050.[10] A recent comprehensive review revealed marine litter in 100% of marine turtles, 59% of whales, 36% of seals and 40% of seabirds,[11] which in turn affect the marine ecosystem and food chain.

6. Air pollution, which is "the single greatest environmental risk to health, and one of the main avoidable causes of death and disease globally with some estimated 6.5 million premature deaths across the

[5] Center for Biological Diversity. Retrieved 28 February 2018, from http://www.biologicaldiversity.org/programs/biodiversity/elements_of_biodiversity/extinction_crisis/
[6] Convention on Biological Diversity. Retrieved 28 February 2018, from https://www.cbd.int/doc/strategic-plan/targets/T8-quick-guide-en.pdf
[7] Lancet commission on health and environment. Retrieved 28 February 2018, from http://www.thelancet.com/pb-assets/Lancet/stories/commissions/pollution-2017/Pollution_and_Health_Infographic.pdf
[8] UN Food and Agriculture Organization (2015). *Status of the World's Soils*. Retrieved 8 March 2018, from http://www.fao.org/3/a-i5199e.pdf.
[9] UN Food and Agriculture Organization (2015). *Status of the World's Soils*.
[10] UN Environment Cleans seas: Turn the tide on plastic. Retrieved on 28 February 2018, from http://cleanseas.org/
[11] UN Environment and GRID-Arendal (2017). *Marine litter Vital Graphics*. Retrieved on 28 February 2018, from http://cleanseas.org/

world attributed to indoor and outdoor pollution" (resolution EA.3/Res.8 on *Preventing and reducing air pollution to improve air quality globally*):
Particularly in developing countries, air pollution disproportionately affects women, children and the elderly especially in low-income populations as they are often exposed to high levels of ambient air pollution and indoor air pollution from cooking and heating with wood fuels and kerosene. It is also a global problem with far-reaching impacts due to its transport over long distances, and in the absence of aggressive intervention, the number of premature deaths due to ambient air pollution are estimated to be on track to increase by more than 50% by 2050.

7. "The health and environmental impacts from waste lead-acid batteries recycling, including through activities in the informal sector in developing countries, and the lack of awareness about lead poisoning and adequate infrastructure for environmentally sound management" (resolution EA.3/Res.9 on *Eliminating exposure to lead paint and promoting environmentally sound management of waste lead-acid batteries*):
The World Health Organization estimates that exposure to lead is responsible for 0.6% of the global burden of disease, with some 600,000 new cases of children with intellectual disability each year.[12] Every year, approximately 800,000 people die of lead exposure in developing countries and lead exposure costs low and middle income countries an average of $977 billion.[13] In pregnant women, exposure to high levels of lead can cause miscarriage, stillbirth as well as malformations.

8. "Threats to water quantity and quality, in particular from pollution on both land and sea across the globe," which disproportionately affect women and children (resolution EA.3/Res.10 on *Addressing water pollution to protect and restore water-related ecosystems*):
According to UN Environment Programme's *Snapshot of the World's Water Quality: Towards a global assessment* (2016), water pollution has worsened since the 1990s in the majority of rivers in Latin America, Africa and Asia.[14] Effects related to water stress impact 44% of the world population; and by 2050, approximately 5 billion people will have felt the effects related to freshwater scarcity.[15]

[12] UN Environment. Retrieved on 28 February 2018, from https://www.unenvironment.org/explore-topics/chemicals-waste/what-we-do/emerging-issues/global-alliance-eliminate-lead-paint-3
[13] UN Environment "Why lead" infographic. Retrieved on 28 February 2018, from http://wedocs.unep.org/bitstream/handle/20.500.11822/17269/FINAL_Lead_infog_en.pdf?sequence=1&isAllowed=y
[14] UN Environment (2016). *A Snapshot of the World's Water Quality: Towards a global assessment.* Retrieved on 28 February 2018, from https://uneplive.unep.org/media/docs/assessments/unep_wwqa_report_web.pdf
[15] Global Water Institute. Retrieved on 28 February 2018, from https://gwiwater.org/

Goal 12. Ensure sustainable consumption and production patterns.

Highest priority must now be given to policies and actions that promote and enable radical decoupling of economic growth from natural resource consumption and environmental impacts. Such measures will need to lead to great increases in resource efficiencies of the world's production systems and increased sustainability in the lifestyles its peoples lead. This requirement is so fundamental that sustainable consumption and production has been given both an over-arching status and a specific goal among the 17 SDGs. Many initiatives and experiments over the last two decades have shown the kinds of economic, social and environmental benefits which sustainable consumption and production approaches can achieve. However, given the slow progress to date in scaling up and replicating these initiatives, renewed political, economic and technological commitments to these approaches are required. The approaches themselves are well understood, and include fiscal and regulatory reforms that internalize the costs of damage to natural resources and the environment, thereby facilitating the accelerated adoption of lifestyles and systems of production based on waste minimization, product life extension, extended producer responsibility, reuse, recycling, remanufacturing and other methods that effectively conserve resources and reduce pollution, thereby improving human well-being over the long term.[16]

(c) Valuable lessons learned on transformation towards sustainable and resilient societies

Inclusion of resource efficient approaches in the resilience conversation is important because the process of building resilience can offer opportunities to build resource efficiency and vice versa.

Recent major multilateral frameworks reflect the importance of local action and the shift of national governments' attitudes towards local action. The level of ambition demonstrated by cities and sub-national authorities has paved the way for or reinforced national commitments and actions, thus making them a powerful mechanism for positive change at all levels of governance. Recognizing this, the Sendai Framework for Disaster Risk Reduction, the Sustainable Development Goals (SDGs), the Paris Agreement on Climate Change, and the New Urban Agenda all highlight the need to engage local governments and urban residents in developing solutions to global problems. Using varied entry points, all four agreements addressed developing local adaptive capacity[17] and building resilient infrastructure[18] as priorities in achieving

[16] UN Environment Programme International Resource Panel (2015). *Policy coherence of the Sustainable Development Goals: A natural resources perspective.*

[17] The Paris Agreement highlights "resilience" as a key feature in climate change adaptation linked to concepts of building adaptive capacity and reducing climate change vulnerability (ODI, 2016). Under the SDGs, Target 13.1 urges us to "strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries".
In the New Urban Agenda, "climate change adaptation" appears 3 times – in paragraphs 79, 101, and 143 – all addressing capacity building at local level through (a) action at different levels, (b) engagement of a diverse range of stakeholders, and (c) improved access to multi-lateral funding.
Similarly under the Sendai Framework, climate change is mentioned 21 times. There is a call to understand disaster risk including climate change scenarios at all levels and to "incorporate disaster risk reduction measures into multilateral and bilateral development assistance programmes" (paragraph 47d).

[18] There are direct and indirect references in all four agreements that point toward the need for resilient systems and infrastructure in cities. Targets 9.1 and 2.5 of the SDGs articulate the need for sustainable and resilient infrastructure that is accessible to all. Under the Sendai Framework, "resilient systems and infrastructure" is captured in the phrase "build back better" and resilient infrastructure is referred to 5 times [18d, 27a, 30c, 33c, 33l, 43]. Paragraph 33 of the Sendai Framework is worth highlighting since it addresses the important role of local governments in ensuring continuity of basic service delivery. The Paris Agreement addresses the need for technology transfer (Article 10.1), climate finance (Article 7.9e) at local and global levels. The New Urban Agenda clearly articulates the link between environmental sustainability and resilience in its core principles and in its third transformative commitment on "environmentally sustainable and resilient urban development" (paragraphs 63-80). The New Urban Agenda also emphasizes the need to reduce and eliminate the

resilience. Both points resonate with UN Environment Programme's advocacy of sustainable infrastructure transitions to build resilience and resource efficiency.

Across all four agreements there is also a common thread recognizing the need for coherence in implementation. UN Environment Programme conducted an assessment of the SDGs for Habitat III (2016), resulting in the diagram below. The diagram recognizes that an urban dimension of the SDGs is broader than one goal since cities are a microcosm where virtually all of the Goals matter. The diagram also illustrates that resilience and environmental concerns are intertwined, referenced most clearly in Goals 12-15 but closely linked to other SDGs, especially on equity and equality.

Figure 1 sustainable urbanisation is more than just SDG 11 developed by UN Environment for Habitat III (2016)

The nexus between resilience and resource efficiency shows potential for gaining co-benefits from considering both issues together, and city leaders who integrate them into urban planning strategies will be able to manage cities in a more sustainable manner.

1. In 2000, Oceania was extracting the highest amount of resources per capita (approximately 158 kg/day) followed by North America (68 kg/day), Latin America (41 kg/day), Europe (36 kg/day), and Africa and Asia (15 kg/day, respectively). Rapid economic development in countries like China and India is creating a growing middle class which creates greater demand for goods and services. Such consumption and production patterns will push the planet outside a ''safe operating space'' and undermine its resilience.

2. There is an opportunity to make an impact on the resilience and resource efficiency agenda through sustainable infrastructure transitions. The Paris Agreement sets a financing goal of US$100 billion to developing countries annually by 2020. However, current estimated losses from natural disasters alone amount to $300 billion. On the other hand, experts believe that buildings sector[19] floor area will

ecological impacts of towns and cities to achieving resilience. The New Urban Agenda adds another aspect to the narrative - that by pursuing increased resilience, cities can not only deal with climate uncertainty, but also tackle resource limitations which could be achieved through an integrated resilience and resource efficiency agenda.

[19] Buildings and construction together account for 36% of global final energy use and 39% of energy-related carbon dioxide (CO_2) emissions when upstream power generation is included.

double by 2060, adding more than 230 billion m^2 to the planet in new building construction, most of which will be funded by the private sector.[20] A shift in the way we build will allow us to systematically build resilience to and address climate change impacts.

3. Achieving resilience and resource efficiency at city-level can help meet broader sustainability objectives. The urban resilience and resource efficiency concepts have overlapping objectives and both aim at addressing major challenges such as climate change and pressure on natural resources. Possible tensions between resource efficiency and resilience may also exist: while redundancy and modularity may help cities to be more resilient to shocks and stresses, they could also be framed as representing inefficient use of resources. Overcoming these potential conflicts will require more integrated and responsive urban planning and governance.[21]

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable.

Resource efficiency in cities is integral to the discussion on city resilience. It looks at the long-term stresses on essential resources – water, materials, energy, and food – that may not be immediately at risk but whose long-term security is threatened. A resource efficiency agenda can help cities become more resilient by reducing exposure to the risk of shortfalls in essential inputs. Becoming resource efficient has implications on the way cities are built and managed. To ensure a coherent and sustainable urban infrastructure transition that builds resilience, UN Environment Programme and its partners have convened the *Global Alliance for Building and Construction* that aims to contribute to the "global transition towards a low-carbon, energy efficient, and resilient buildings and construction sector."[22] The Alliance now has over a hundred members from around the world, including national governments, local governments, private sector, civil society, and think tanks.

(d) Emerging issues likely to affect building sustainable and resilient societies

A healthy environment that provides natural resources, moderates the climate and buffers against extreme weather events is critical in building sustainable and resilient societies. The six emerging issues identified by UN Environment below merit careful consideration by Member States to prevent further environmental degradation.

Each year UN Environment Programme collaborates with a global network of scientists and experts to identify emerging environmental issues with global implications. In 2017, the following six issues have been identified in the report, "Frontiers: Emerging Issues of Environmental Concern," for their potential to derail efforts toward sustainable development if not properly addressed, and in a timely manner.

1. Antimicrobial resistance has emerged on the international agenda as an issue threatening public health and sustainable development. During the UN General Assembly in September 2016, Heads of State recognized the urgency of the situation as the numbers of communicable diseases that are evolving resistance to existing drugs are increasing at accelerating rates. A less well known but

[20] Global Alliance for Buildings and Construction. *Global Status Report 2017. Retrieved on 8 March 2018, from* https://globalabc.org/uploads/media/default/0001/01/35860b0b1bb31a8bcf2f6b0acd18841d8d00e1f6.pdf

[21] UN Environment (2017). *Resilience and resource efficiency in cities.*
[22] Global Alliance for Buildings and Construction. Retrieved on 28 February 2018, from https://globalabc.org/about-gabc/members

significant factor is the role of environmental components in amplifying resistance. Domestic and agricultural solid waste and wastewater often end up in the natural environment. The natural environment thus becomes a reservoir of antibiotic residues, resistant pathogens and other molecules with antimicrobial properties that enhance the spread of resistant genes in microbial communities. Precautionary measures need to be taken to reduce the overall release of antibiotics, while improving sewage and wastewater management in critical hotspots such as hospitals, drug manufacturing sites and agricultural sources.

2. Nanomaterials are ever present in what we regularly consume, ranging from food products, cosmetics, disinfectants, kitchenware, baby goods, clothing, furniture and electronics. While nanotechnology has been emerging for some decades, ongoing research now allows us to manufacture conventional materials at a miniscule scale. However, questions have arisen—and remain only partially answered—about the health risks of these novel materials. Environmental exposure of engineered nanomaterials is inevitable and their adverse effects and persistence could have significant consequences on organisms, ecosystems and food chains. What we have learned with other hazardous substances that possess similar size, shape and chemistry may provide some lessons about the regulatory frameworks needed to assure safety and non-pollution outcomes from the use of nanomaterials.

3. At the UN Ocean Conference in June 2017, Member States reaffirmed their obligation to conserve and responsibly use the oceans, seas and marine resources for sustainable development. Promoting the use of effective and appropriate area-based management tools, such as marine protected areas, was among the renewed pledges. In the last decade, countries around the world have progressively taken actions to designate new, or to enlarge existing, marine protected areas to safeguard natural resources and ecological functions. To date, around 14.4% of the world's coastal and marine areas under national jurisdictions are declared protected. For marine protected areas to be truly effective, however, they also require strong governance that involves relevant users and stakeholders, influences their behavior, and ultimately reduces the impacts that result from extractive practices. Effective sharing of costs and benefits of marine protected areas is an essential step to ensure genuine sustainable development.

4. Sand and dust storms are another environmental issue with global implications—causing chronic health problems, damage to agriculture and infrastructure, intensified soil erosion, and economic losses that reach millions of dollars every year. Sand and dust storms are connected to a range of environmental and development issues that extend across national, regional and continental boundaries. Analyses found increased frequencies of dust storms in some parts of the world. Moreover, there is a strong link between the unsustainable use of land and water and the increase in dust emissions. Integrated strategies that promote sustainable land and water management, ecosystem restoration and climate change adaptation can help reduce and mitigate the threats that originate from sand and dust storms over the long term.

5. Nearly 1 billion people worldwide live without electricity. While significant progress has been made in recent years, it is projected that nearly 780 million people could still remain off-grid in 2030. Solar energy was among the first renewable energy technologies adopted globally to meet the basic electricity needs of off-grid populations. Recent years have seen the proliferation of small distributed solar energy systems serving low-income customers in Africa and Asia, where at least 95% of the world's off-grid population reside. There have been successful roll-outs of solar products with improved batteries, lower capital costs, affordable financing and easy access to pay-as-you-go schemes. With the right policies and regulations on renewable energy and a clear vision of future

possibilities, off-grid solar could be key to achieving universal access to affordable, reliable and modern energy services, and for eliminating poverty.

6. In 2016, about 31.1 million people were newly displaced within their own countries because of conflicts, violence and natural disasters—the latter responsible for 24.2 million of them. The sudden-onset of natural disasters, such as storms and floods, and the slow-onset of environmental change and degradation, including desertification and sea level rise, can make areas uninhabitable, and displace populations temporarily or permanently. The increased awareness of risks from a changing environment and climate reinforces the need for good planning for in-place adaptation and policy design to prevent or manage human displacements.

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

The results of recent global energy modelling by the International Energy Agency and others confirm that, with current efforts, the SDG 7 targets will not be met by 2030, even with new policy commitments made under the Paris Agreement and drop in technology prices such as for solar photovoltaic. Many countries are taking action, but on aggregate the transition to sustainable and modern energy for all is not happening fast enough. While access to clean fuels and technologies for cooking climbed to 57 per cent in 2014, up from 50 per cent in 2000, more than 3 billion people lacked access to clean cooking fuels and technologies, which led to an estimated 4.3 million deaths in 2012. The experience of UN Environment Programme in its renewable energy and energy efficiency programmes highlights the continued need for upstream support in terms of: assessments, capacity building, training, and strengthening of multi-stakeholder processes and institutions. Partnerships with technology owners and developers have scaled up global shifts such as on efficient lighting or vehicles, enabling the matching of policy development with technology availability. Collaboration with financial institutions have facilitated policy-finance continuum, such as assessments on district energy resulting in loans by development banks. However, metrics for monitoring effectiveness are needed to ensure that policies are adapted in a timely manner and investments flow to where most needed and cost-effective.

(e) Areas where political guidance by the high-level political forum is required

The UN Environment Assembly promotes integrated approaches to sustainable development. How to ensure that the environment is considered and integrated into efforts to implement the SDGs, both by governments and major groups, is an area that requires political guidance by the High-level Political Forum.

The UN Environment Assembly is the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the UN system, and serves as an authoritative advocate for the global environment. As such, the Environment Assembly promotes integrated approaches to sustainable development in which economic, environmental and social dimensions are considered in a balanced manner based on the following interlinked principles: 1) leave no one behind; 2) live within the Earth's safe operating space; and 3) leave assets behind for future generations.[23] This is in line with the view that integration optimally provides "the basis for economic models that benefit people and the environment; for environmental solutions that contribute to progress; for social approaches that add to economic dynamism and allow for the preservation

[23] UN Environment Programme (2014). *Environmental sustainability for human well-being in the post-2015 development agenda.*

and sustainable use of the environmental commons; and for reinforcing human rights, equality, and sustainability."[24]

Political guidance from the High-level Political Forum would prove useful on the following points:

1. How can the international community effectively promote integrated approaches to sustainable development, in which due recognition is given to the fact that restoring and maintaining the health of the natural resource base is a necessary condition for eradicating poverty and sustaining economic progress for all?[25]

2. What concrete incentives would help in ensuring that the environment is mainstreamed into national and subnational planning and budgeting processes? For example, would conducting an economic assessment on the real cost of unsustainability spur governments into action?

3. How can the private sector – businesses and industries – be mobilized to internalize the environmental externalities of their activities and products and facilitate transition to sustainable consumption and production patterns?

4. How to manage the economic and social repercussions of environmental degradation and pollution, such as pressures on the public health sector, decline in ecotourism and population displacement.

5. How to apply integrated approaches to build resilient and sustainable societies, particularly in support of SDG target 11.4: "Support positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning."

[24] UN (2014). *The road to dignity by 2030: ending poverty, transforming all lives and protecting the planet: Synthesis report of the Secretary-General on the post-2015 Sustainable Development Agenda* (A/69/700).
[25] UN Environment Programme International Resource Panel (2015). *Policy coherence of the Sustainable Development Goals: A natural resources perspective.*

Goal 6. Ensure availability and sustainable management of water and sanitation for all

Specifically, for SDG 6 on water and sanitation, political guidance is necessary to promote integrated water resources management approaches, which is defined as "a process that promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems."[26] This is in line with target 6.5: "By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate." Concerted efforts should be made to ensure that countries not only develop integrated water resources management approaches in consultation with relevant stakeholders, but also cooperate closely with each other to safeguard and equitably benefit from transboundary water resources. The high volume of waste water – up to 80% worldwide – that flows back into the environment untreated also requires urgent attention and coordinated action. This can include establishing effective water quantity (flow) and quality monitoring stations and associated information systems that allow for real time data collection and dissemination among affected parties.

(f) Policy recommendations on ways to accelerate progress in establishing sustainable and resilient societies

Combating pollution contributes to achieving sustainable and resilient societies and accelerates progress towards the implementation of the 2030 Agenda. The ministerial declaration and the resolutions adopted at the third session of the UN Environment Assembly pave the way for pollution prevention, control and reduction, which create multiple opportunities for achieving the SDGs.

Efforts to shift to a pollution-free planet contributes to achieving many of the SDGs and targets, including SDG 11 on sustainable cities and communities. Adapting innovative policies and technologies for pollution minimization, for example, directly helps to fulfill target 11.6 to "reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management." Addressing pollution further fulfils target 3.9 to "substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination". Addressing soil pollution improves soil fertility and climate resilience, thereby achieving target 2.3 to "double the agricultural productivity and incomes of small-scale food producers." Addressing water pollution supports target 6.2 to "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."

In view of these and other obvious interlinkages between pollution and the SDGs, it is important to take concrete actions to prevent, control and reduce pollution. Ministers of Environment who had gathered at the third session of the UN Environment Assembly provided the following policy recommendations in this regard:

1. Increase research and encourage the development, collation and use of reliable and disaggregated data; this will include providing better multidisciplinary indicators; improving capacity for efficient

[26] UN Environment. Retrieved 28 February 2018, from https://www.unenvironment.org/explore-topics/water/what-we-do/advancing-integrated-water-resources-management

gathering, verification and monitoring of data; and increasing transparency by making it easier to access such information more widely;

2. Promote science-based decision-making in the public and private sectors, effective standard-setting processes by all stakeholders and greater public participation;
3. Accelerate the implementation of and promote cooperation among existing multilateral agreements, conventions, regulations and programmes to prevent, control and reduce pollution, in a way that targets pollution through tailored actions;
4. Foster inclusive and sustainable economic productivity, innovation, job creation and environmentally sound technologies, also in line with UN Environment Assembly resolution EA.3/Res.5 on *Investing in innovative environmental solutions for accelerating the implementation of the SDGs*.
5. Encourage sustainable lifestyles and move forward in ensuring more sustainable consumption and production patterns, by providing reliable sustainability information to consumers, increasing education and awareness-raising, and making it easier to rethink, reuse, recycle, recover and remake any products, materials and/or services, and prevent and reduce waste generation;
6. Promote the adoption of policies and approaches such as those for the environmentally sound management of chemicals and waste, including the use of the integrated life cycle approach, value chains and sustainable chemistry;
7. Promote fiscal measures, such as incentives, to stimulate positive change, taking into account the importance of minimizing pollution and making every effort to invest in more sustainable, environmentally sound solutions;
8. Strengthen and enforce more integrated policies, laws, and regulations by supporting institutions and building their capacity; bolstering monitoring and accountability systems; sharing best practices, standards, policy instruments and tools; and enhancing environmental education and training;
9. Creating an enabling environment to tackle pollution in the context of sustainable development and in the spirit of global partnership and solidarity, including through adequate and predictable means of implementation as agreed in the 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda;
10. Develop and expand multistakeholder partnerships to tackle pollution, including between national and local governments, the private sector, and relevant UN entities and programmes; and promote North-South, South-South and triangular cooperation.

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Established in 2012, the Climate and Clean Air Coalition is a voluntary partnership of governments, the private sector, civil society and other stakeholders committed to "achieve concrete and substantial action to accelerate efforts to reduce short-lived climate pollutants". This action includes 11 initiatives targeting transformational change in household energy, cooling, bricks production, oil and gas production, agriculture, transport, solid waste, and national/local planning. A Scientific Advisory Panel keeps the Coalition abreast of new scientific developments on short-lived climate pollutants to better inform policies. Concerted global action to reduce these pollutants has the potential to prevent an estimated 2.4 million premature deaths annually from outdoor air pollution, significantly reduce the estimated 4.3 million deaths and other health impacts from indoor air pollution, and avoid more than 52 million tons of crop losses annually, while reducing the near-term warming of up to 0.5° Celsius by 2050.[27]

[27] UN Environment (2017). *Towards a Pollution-free Planet: Background report for the third session of the UN Environment Assembly.*