Member States and stakeholders are invited to submit comments to the Draft Report by the 11 of December to the following email addresses lagunacelis@un.org; dirk.wagener@un.org ; brennan.vandyke@un.org

Innovative solutions for environmental challenges and sustainable consumption and production

Report by the Executive Director

The Report of the Executive Director for the fourth session of the UN Environment Assembly focuses on identifying innovative solutions for pressing environmental challenges that have a positive impact on society, the economy and the environment, and on creating the conditions for an effective transition towards sustainable consumption production patterns.

The Report defines innovative solutions as "business unusual" approaches encompassing the promotion of enabling environments for creative approaches in policy, financing, partnerships, processes and the use of data to understand environmental issues and improve sustainability – thus not restricted to an intervention or a technological innovation in the traditional meaning of the innovation. The Report provides insights on the enabling conditions to stimulate and strengthen a culture of innovation and presents also a short summary of pressing environmental trends as reflected in major environmental assessments. The Report then proceeds to cover three focus areas: (a) Environmental challenges related to poverty and natural resources management, including sustainable food systems, food security and halting biodiversity loss; (b) Life-cycle approaches to resource efficiency, energy, chemicals and waste management; (c) Innovative sustainable business development at a time of rapid technological change.

The report concludes by emphasizing that innovative solutions and systemic changes towards sustainability in governance models and at various stages of the life cycle of products and services are a necessary condition for achieving sustainable consumption and production and for effectively addressing environmental challenges. Ultimately, we have twelve years remaining to fundamentally shift our global economic systems towards more sustainable trajectories in order to avoid catastrophic climate change and loss of biodiversity. This kind of exponential transformation can only be achieved if it is catalysed and underpinned by innovation at all levels.

Table of Contents

I Introduction

Innovation is finding solutions for today's problems and embracing a forward-thinking culture that fosters ingenuity.

1. Only through innovation can our generation move our world closer to the vision set out in "The future we want", where "poverty eradication, changing unsustainable and promoting sustainable patterns of consumption and production and protecting and managing the natural resource base of economic and social development are the overarching objectives of and essential requirements for sustainable development."

2. The key features which characterize an innovative culture are creativity, openness and participation. An open innovation culture spans sectors, actors and collaborators.

3. Establishing the right mix of enabling conditions to stimulate and strengthen a culture of innovation includes: leadership and governance instruments that reward innovation and circularity while stimulating openness and collaboration; transitioning towards a knowledge society through education and continuous capacity building; and widely channelling finance and technology towards sustainability.

4. In promoting a culture of innovation, no-one should be left behind. This report therefore advocates for the interlinkages and integrated nature of the Sustainable Development Goals as set out in General Assembly Resolution A/RES/70/1, entitled "Transforming our world: the 2030 Agenda for Sustainable Development."

5. This Report defines innovative solutions as "business unusual" approaches encompassing the promotion of enabling environments for creative approaches in policy, financing, partnerships, education and the use of data to understand environmental issues and improve sustainability – thus not restricted to an intervention or a technological innovation in the traditional meaning of the term innovation.

6. There are numerous environmental challenges affecting society, the economy and the environment itself. The Report capitalizes on the growing momentum to tackle these challenges by embracing innovative approaches. It does so by focusing on three areas (a) Environmental challenges related to poverty and natural resources management, including sustainable food systems, food security and halting biodiversity loss; (b) Life-cycle approaches to resource efficiency, energy, chemicals and waste management; (c) Innovative sustainable business development at a time of rapid technological change.

Leadership and governance instruments can promote innovation by stimulating openness and collaboration

7. Governance instruments can help create a cultural framework in which innovation thrives. Getting the right mix of governance instruments to stimulate innovative solutions is crucial. Certain policy frameworks and other instruments have a successful track record in this regard,

especially those that discourage environmental externalities, such as payment for ecosystem services, or encourage life-cycle approaches.

8. Policy frameworks and governance instruments, supported or driven by leadership committed to change, can provide powerful drivers for innovation in the environmental sphere. These include: encouraging investment in technology, promotion of research excellence, experimentation and the development of human and knowledge-based capital; using open science to increase economic and social returns on public investment in research; encouraging international co-operation in science and technology; commercializing publicly funded research; introducing research and development tax incentives; developing infrastructure relating to computing, telecommunications, "big data" and the open internet.[1]

9. Technology and innovation, such as block chain, can also support a critical enabling condition for better governance – the principle of transparency. If we cannot manage what we cannot measure, then environmental transparency is a fundamental pre-condition and catalyst towards sustainability, because it generates the data needed to achieve three outcomes. These include accountability, public participation and market pressure. A range of technologies including earth observation and sensors can both measure environmental performance and help make these data more publicly available. Generating disaggregated data is at the heart of how citizens can hold their public institutions and private companies to account -while also offering further opportunities for innovation. For example, these kinds of data are essential to inform consumer choice among alternative products with different environmental footprints across their supply chains. They can also be used to demonstrate that specific environmental standards were followed.

Investing in education and transitioning towards a knowledge society can create a generation that solves global environmental challenges

10. Meeting a constantly evolving skills gap for a dynamic and resource-efficient economy is a leading social issue intrinsically linked to innovation and sustainable development. This is because skills-intensive industries grow faster in countries with a more skilled workforce. Effective education and training are proving to be essential enabling conditions for triggering innovation, capturing investment flows and accelerating technological progress. Persistent skills gaps however limit the capacity to reduce poverty and create good quality jobs.

11. Widely investing in environmental education, with a strong gender focus, has the potential to produce a generation that can innovate and more rapidly adapt to innovations that address global environmental challenges. Educational institutions can seize the benefits of a rapidly digitalizing world and lead by example by prioritizing education techniques that develop competencies conducive to innovation and innovation management, such as creative thinking, design skills, organizational change management, the ability to collaborate and work in teams to problem-solve.

12. Life-long learning and the continual updating of skills in the workforce and of capacities in institutions and businesses are likewise crucial to meeting the ever-changing skills gap. With

[1] OECD 2015 The Innovation Imperative: Contributing to Productivity, Growth and Well-Being. https://www.innovationpolicyplatform.org/document/effective-innovation-policies-innovation-imperative-contributing-productivity-growth-and

[2] International Resource Panel 2017 Assessing global reuse: A systems approach to resource efficiency and pollution reduction.

millions still trapped in low-skilled employment, there is an urgent need for new educational schemes, such as blended learning and on-line learning platforms that can enhance the innovative capacities of societies while making it easier for millions of people to gain educational certificates and professional licences. New pedagogical models, such a gaming or innovation labs, are not only inherently innovative, but also enhance students' creativity and problem-solving skills. With access to the internet increasing worldwide and digital platforms becoming more affordable, targeting the needs of those who have never received any education and remain largely outside the range of training facilities is more realistic than ever.

Widely channeling finance towards sustainable investments is key to accelerate innovation

13. In recent years the financial landscape has changed significantly, and a substantial amount of progress has been made on financial policy including banking regulations, pension regulations, insurance regulations and macro-prudential approaches, which can catalyse environment-smart investment. There has also been growth in the global financial market with long-term assets under management, the creation of investment funds with some focus on non-financial, social returns and new forms of fund raising utilizing social media.

14. Green, impact and value investing have expanded in the recent years as the market for green bonds have surged to $170 billion in 2017. There is great potential for green and value investing. However, currently green bonds are still only a half percent of the world's fixed income. The challenge is how to shift a larger share of the trillions of dollars under management to "green" investments for development of innovative solutions to address global environmental problems. Another key challenge is to agree on methods to assess the life cycle benefits of green investments, and a taxonomy of sustainable investments.

15. One persistent challenge is that business models for environmental products and services, particularly those which target low-income households (e.g. solar lamps, clean cookstoves, drip irrigation systems) often face a major obstacle with 'middle-men' and up-front costs, even when products pay for themselves relatively quickly and offer other benefits. This is the main reason why almost 80% of wastewater remains untreated today despite the overwhelming health and environmental benefits of sanitation systems.

16. To drive investments into circular, green and low-carbon growth and to align global financing and investments to the sustainable development agenda, it is essential that the finance sector adopts responsible banking principles. The 'Principles for Responsible Banking', launched by the UN Environment Programme Finance Initiative in 2018, is a promising innovative approach that will help banks the align their business with the objectives to the Sustainable Development Goals and the Paris Climate Agreement. A set of six principles set out a clear purpose for the banking industry itself and enables stakeholders to compare banks and hold them accountable for their environmental, social and economic impacts. Through adopting the principles, banks will agree to set public targets on addressing their most significant negative impacts and scaling up their positive impacts to align with and contribute to national and international sustainable development and climate targets.

II Evidence from the latest global assessments

The time to change is now

17. We live on a rapidly warming, polluted planet that is quickly losing its biodiversity.[3] The world continues to use a growing amount of resources to such an extent that we have now surpassed several of the ecological thresholds mapped by science. Pollution-related costs have been estimated at USD 4.6 trillion annually. The global health benefits of reducing air pollution and of achieving the 2°C target of the Paris Agreement could be as high as USD 54.1 trillion dollars, at a global cost of only USD 22.1 trillion.

18. By 2050, the median projected population is expected to rise to almost 10 billion[4] and to grow to more than 11 billon by the end of the century. If linked to rising levels of consumption, the pressures on global resources will be greater than at any other time in human history, creating competition for resources and overstretching the planet's regenerative capacity.

19. Of these 10 billion people, 6.5 to 7 billion will live in cities and 2 to 3 billion will live in informal settlements in these cities. Innovative solutions will need to consider issues of equity and equitable distribution to this large population living and working within informal sectors.

20. To feed these 10 billion people, agricultural production will likely need to increase by 50% by 2050, while the environmental impact of food production will need to decrease by two-thirds. Much of this environmental impact is caused by meat production, where 77% of agricultural land is currently linked to the production of meat. Cutting global food waste, currently at 33%, could also help increase food security.

21. Climate change is a threat multiplier. Ongoing increases in greenhouse gas emissions due to the burning of fossil fuels for energy and transportation, land use change and deforestation, have put the world on an extended warming trajectory that, without rapid de-carbonization, will lead to greater sea-level rise, ocean warming and acidification, and more extreme weather that will amplify existing risks, such as catastrophic flooding and wildfires, and the spread of zoonoses and infectious diseases, especially for the poor and vulnerable. No part of the world will be left untouched. Even though energy demand is likely to grow by 40% between now and 2050, we will need to consume 80% less fossil fuels than we do today to avoid the worst impacts of climate change. To reach this target, energy systems, including transportation systems, will need to be completely rethought.

22. Climate change will amplify existing risks, especially in states that lack the institutional capacity to plan, and to manage intense competition over water, food, land and energy. In such states, climate change may contribute to a downward spiral of fragility and conflict, with the poor and vulnerable most deeply affected.

23. Pollution today is pervasive and persistent. Pollution is not a new phenomenon; it is largely controllable and often avoidable, but considerably neglected. A major step forward was achieved in 2017 during the third session of the UN Environment Assembly with the adoption of the Ministerial Declaration "Towards a Pollution-Free Planet". Nevertheless, Air pollution remains a

major environmental contributor to the global burden of disease with approximately 7 million premature deaths and economic losses of USD 5 trillion annually. Of these, 4 million[2] are due to ambient air pollution and 3 million to indoor air pollution. Exposure to air pollution is highest in low and middle-income countries and for the 3 billion people who rely on burning wood, charcoal, crop residue and manure for heating, lighting and cooking.

24. Over the last two decades, approximately 20 per cent of the Earth's vegetated surface showed persistent declining trends in productivity, due to climate change, biodiversity loss and poor management practices. Land degradation decreases resilience to environmental stresses, which has a direct impact on the poor, women and children, leading to intense competition for scarce natural resources and an irreversible and continuing decline in genetic and species diversity. The total global ecosystem services have been valued at USD (2007) 125 trillion/year, while the value of lost ecosystem services between 1995 and 2011 have been estimated at USD 4-20 trillion.

25. Freshwater ecosystems are important for providing basic life-giving services (e.g. drinking water, sanitation services), and it is therefore of great concern that 40 per cent of the world's wetlands have been lost since 1970 due to land- use changes and that agriculture continues to use 70% of the world's water resources.

26. Peatlands and the permafrost regions of the world are also being lost; estimates are that 15 per cent of global peatlands were drained by 2015. These ecosystems are vital to global climate, not only because of how much water they store, but also for the vast quantities of greenhouse gases stored in peat.

27. Coral reefs and other acidity and temperature sensitive marine ecosystems are under threat from climate change and many reefs have been irretrievably damaged by chronic bleaching events. Marine pollution in the form of litter and plastics is increasing and is estimated to be increasing by 8 million metric tonnes annually. The damage caused by plastics to marine species has been widely reported, but accurate mortality rates have yet to be determined. Overfishing of much of the fish stocks continues to be a problem putting both the health of fish stocks and the livelihood of the people depend on fishing and aquaculture, as well as the estimated 3.1 billion people dependent on marine species for 20 per cent of their protein, at risk.

28. Global material resource use continues to grow. Metal-ore extraction and metal production increased threefold from 1970 to 2010. The steepest increase occurred from 2000 to 2010, driven mainly by the industrialization and urbanization of emerging economies. Resource use is expected

---

[3] United Nations Environment Programme (2019) Global Environmental Outlook 6; Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (2018) Summaries for Policy Makers of the Assessment Reports for Asia and the Pacific, the Americas, Africa, Europe and Central Asia and thematic Assessment on Land degradation and restoration https://www.ipbes.net/event/ipbes-6-plenary; United Nations Convention to Combat Desertification (2017) Global Land Outlook https://www.unccd.int/actions/global-land-outlook-glo; Intergovernmental Panel on Climate Change (2019) Special Report on Global warming of 1.5ºC https://www.ipcc.ch/report/sr15/ ; International Energy Agency (2018) World Energy Outlook 2018 https://webstore.iea.org/world-energy-outlook-2018 ; Food and Agriculture Organisation (2018) The State of Food and Agriculture 2018 http://www.fao.org/publications/highlights-detail/en/c/1157519/; IRP (2017) Assessing global resource use: A systems approach to resource efficiency and pollution reduction http://resourcepanel.org/reports/assessing-global-resource-use ; United Nations Environment Programme (2017) Towards a Pollution Free Planet http://web.unep.org/environmentassembly/node/41653

[4] United Nations World Population Prospects 2017 (2017) https://population.un.org/wpp/Publications/

to reach nearly 90 billion tonnes in 2017 and may more than double from 2015 to 2050, with high-income countries currently consuming 10 times more per person than low-income countries.[5] Globally, 2 out of 3 people lack access to controlled waste disposal facilities.

29. The mining sector will play a key role in the transition toward a low-carbon future and the adoption of green economy strategies. The technologies required to facilitate these shifts, including wind turbines, solar panels and improved energy storage, all require significant mineral and metal inputs. Notably, a significant amount of the minerals and metals needed for green technology are sourced today from fragile states (ranging from 20-70%) but may in future come from deep-sea beds. they are sourced will determine whether this transition supports peaceful, sustainable development in the countries where strategic reserves are found or reinforces weak governance and exacerbates local tensions and grievances and international conflicts

30. The safe use and disposal of chemicals is also a problem in many countries. Only a small fraction of the immense number of synthetic chemicals being produced today are regulated. Some products in everyday use, such as cosmetics, plastic containers, household cleaners and pesticides contain toxic compounds that are known to interfere with human and environmental health. These compounds are found in lakes, rivers, wetlands and water systems. Current legislation is insufficient to handle the risks of chemicals accumulating in the environment or being transmitted to remote parts of the planet such as the polar region, deep oceans and high mountains. Also, current assessment methods fall short of assessing the impacts of multiple chemical alternatives over the chemicals' life cycles.

Decoupling economic growth from environmental degradation is indispensable to achieve the Sustainable Development Goals

31. Given the current projected population[3] growth, decoupling between economic growth on one side and material consumption and associated environmental impacts on the other, will be indispensable if we are to achieve the Sustainable Development Goals. For example: the current rate of decoupling of CO_2 emissions from economic growth (GDP) will need to triple if we are to meet the ambitious targets in the Paris Agreement, namely, to limit temperature increase to well below 2 degrees.

32. Environmental challenges are interconnected and must be addressed at a systemic level rather than simply one by one. A first step in addressing our most pressing environmental challenges is to recognize their systemic nature. As the Global Environment Outlook shows, negative environmental impacts cannot be effectively mitigated by focusing on one policy at a time, such as emissions abatement or resource efficiency. Appropriate innovative solutions that address systems rather than issues, such as changes in governance and business models as well as our way of living, can reduce the environmental pressures associated with unsustainable consumption and production, but these will require investment, guided innovation and well-designed policies

[5] IRP (2017) Assessing global resource use: A systems approach to resource efficiency and pollution reduction http://resourcepanel.org/reports/assessing-global-resource-use

33. For example, designing more durable products which are easier to disassemble and recycle reduces the pressure on waste landfilling and has the potential to create local markets. There is also good evidence that agroforestry schemes, where food trees or specialized product trees are planted amongst crops and can help sequester carbon at the same time as improving nutrition levels and livelihoods amongst small-holders. Adopting/enforcing lifetime extension policies to increase the effective service life of products or parts reduces the overall material and carbon footprint of such products and deliver useful services for a longer time.

34. It is not enough to optimize the production processes and products if the users and consumers do not align with this effort. Policies need to address the full lifecycle of products and services. Thus, innovation and policies to encourage sustainable consumption need to go hand in hand with innovation for more resource efficient and climate friendly production and design for circularity.

Improving scenario-building models to develop environment foresights is key for better decision-making

35. Promoting comprehensive long-term and real-time environmental monitoring systems is key to anticipating risks and promoting action at all levels. Scenario thinking and integrated analysis of environmental data from traditional and new sources including remote sensing, citizen science and increasing the use of artificial intelligence and big data analysis, can help explore interactions across domains. Such tools can help us in exploring the interaction between innovative agricultural practices on climate and biodiversity, while also investigating the link to social development in rural areas, migration patterns (due to more, or less demand for labour), urban development, consumer demand etc. The use of such data allows targeted policy packages to develop for forecasting risks, promoting shared governance of natural resources and fostering greater resource efficiency as an underpinning to more sustainable consumption and production driven by innovation.

III Environmental challenges related to poverty and natural resources management, including sustainable food systems, food security and halting biodiversity loss

Food systems are imposing increasing pressures on our environment

36. The environmental impacts of unsustainable agricultural practices cost an estimate of USD 3 trillion per year. A growing global population, a degraded natural resource base, food losses and waste, together with unsustainable trends in food consumption and production and in lifestyles, combine to present a serious threat to the global food system. Climate change is seriously exacerbating these threats. From a health perspective, exposure to pesticides is among the leading causes of death, particularly in low- and middle-income countries. Moreover, emerging evidence points to declining nutritional quality of our food due to the way we select modern crop varieties, coupled with long-term depletion of soil nutrients.

37. Most of the external costs associated with unsustainable agricultural practices go unnoticed and unaccounted for as they do not have a market price. The exclusion of negative externalities leads to under-pricing of food, which in turn distorts rational policy responses as well as individual decisions and actions of food producers, retailers and consumers, resulting in significant adverse socioeconomic and environmental impacts. Exacerbating these production and consumption trends are acute inefficiencies in the way our food is harvested, processed, marketed and consumed. Together, these inefficiencies result in approximately 30% of global food production either lost or wasted each year. Innovative approaches need to be developed in the provision of cold chains in tropical climates from farm to market and food waste reduced at the consumer and retail levels.

38. Livestock is the largest source of agricultural anthropogenic methane (14.5%; FAO, 2013), which has an acute effect on the global climate system. The main source of these emissions, enteric fermentation, is increasing rapidly. Stakeholders such as the Climate & Clean Air Coalition (CCAC) working together with the FAO and the World Bank underscore the mitigation potential of enteric methane and promote cost-effective solutions that allow farmers to reduce the intensity of emissions related to enteric fermentation while improving the productivity of ruminants, ensuring food security and strengthening livelihoods. Countries such as Bangladesh, Ethiopia and Uruguay are implementing these solutions in the context of long-term sustainable development of their agricultural economies.

Food systems are failing to provide for the world's food insecure people both in terms of agricultural yield and nutritional quality

39. Maximizing agricultural productivity is critical to eradicating poverty, creating income opportunities, enhancing inclusive socioeconomic growth and reducing vulnerabilities across the globe. Over 500 million smallholder farmers provide food for two-thirds of the earth's growing population. Achieving a zero-hunger world by 2030 depends on increasing smallholder productivity and mitigating crop loss from pests, diseases and post-harvest losses. In addition, agriculture employs most of the world's poor – implying that maximizing its productivity stands

out as critical to creating income opportunities, enhancing inclusive socioeconomic growth and reducing vulnerabilities across the globe.

40. Despite the world producing enough calories, undernutrition remains the greatest cause of premature mortality and impaired human capital. Nearly 46 per cent of deaths in children under 5 are attributable to undernutrition. This translates into an avoidable loss of about 3 million young lives a year. There are 20 million children who suffer annually from severe acute malnutrition and 160 million from stunting. Approximately 800 million people are hungry yet at the same time, 1.6 billion people are classified as overweight or obese. It could be assumed that those who are hungry are mostly in developing countries, with obesity as a developed country problem; however, the reality is different. The double burden of malnutrition (including undernutrition, micro- and macronutrient deficiencies, stunting and wasting) and over-consumption (e.g. unbalanced diets, obesity, and diabetes) is increasingly evident in many low and middle-income countries, where often both extremes can coexist within the same communities.

41. Livestock production is a key source of vitamins and protein – and income generation for the world's poor and consumption should be encouraged where appropriate. However, the phenomenon of a nutrition transition, where westernized diets and lifestyles, characterized by starchy carbohydrates and processed meats replacing traditional diets, is not only impacting health but also changing farming systems as they become more intensive. This shift carries clear implications for health, biodiversity, the resilience of ecosystems and the ecosystem services on which our lives depend.

Long-term global food security depends largely on a shift towards sustainable food systems

42. Sustainable food systems offer a holistic, integrated way to address food security, environmental health and human well-being, which can be applied to all countries at national and local levels.[6]

43. Food systems need to function within the context of a finite and shrinking resource base. They need to deliver increasing productivity while utilizing natural resources in a sustainable manner, while conserving ecosystems and biodiversity. FAO estimates that by 2050, to satisfy the demand of a growing and richer population, with higher levels of meat consumption, food production must increase by at least 60 percent from its current level. This additional pressure on supply growth can be reduced significantly by improving production efficiency, increasing yields, influencing dietary trends and reducing food losses and waste.

Sustainable food systems offer a holistic, integrated way to address food security, environmental health and human well-being

44. Sustainable food systems facilitate production and consumption of sufficient, nutritious food in an affordable way, while conserving the natural resources and ecosystems on which food systems depend and enhancing resilience to climate change. This approach is accessible to all countries at national and local levels.

45. Transitioning to more resilient and sustainable food systems therefore concerns all the interrelated[4] and connected activities that go into producing and consuming food: producing (at farm, ecosystem and landscape levels), standardising, processing, transporting, storing, marketing and consuming. The 'systems' approach is therefore rooted in an understanding of these linkages, the interactions among them, and the policy levers and options available to all actors in the sector.

46. However, food and agriculture policies are often fragmented in nature and siloed in their approach and implementation. As a result, solutions for food systems problems are often tackled with a focus mainly on end-of-pipe solutions rather than root causes. There is insufficient policy interconnectivity between food production, environmental degradation, diets, nutrition, poverty, education, trade, etc. And due to a lack of integrated policy planning, food systems are incentivized to over-exploit our natural resource base and externalize environmental costs, creating inefficiencies and price distortions and impacting on food security.

Embracing at all levels a holistic approach to food security and nutrition will contribute to eradicate poverty and implement multiple Sustainable Development Goals

47. A 'food systems' approach to policy making allows food system actors across the whole life cycle to take a holistic view that values resource use efficiency, food security and nutrition, environment and health, as well as ensuring equitable distribution of economic benefits throughout the supply chain. It also recognizes the role of global consumption trends as a driver of the way food is produced. If sustainable food systems policies are designed and implemented in a systemic way, this will result in the opportunity for achieving at least 12 of the 17 Sustainable Development Goals. A holistic approach requires cross-sectoral alignment and coordination, for example between agriculture, environment, health, business development, education and employment.

48. The One Planet Network Sustainable Food Systems Programme, established under the Ten-Year Framework of Programmes on Sustainable Consumption and Production Patterns functions as a global multi-stakeholder partnership to accelerate the transition towards sustainable food systems. The platform has developed the Collaborative Framework for Food Systems Transformation. The Framework suggests 4 actions in the policy making process: Identify an individual or group of food systems champions; Conduct a holistic food systems assessment; Initiate a multi-stakeholder process for dialogue and action across the value chain; Improve food systems governance in the long term.

49. Africa can be the laboratory for the sustainable food systems of tomorrow. Agriculture holds a strategic position for the African Continent. Maximizing the sustainability, the productivity and efficiency of this sector has the catalytic potential to accelerate the realization of inclusive growth that pulls most people from the bottom of the pyramid. Orchestrating this transformation calls for an urgent divestment from a silo consideration of agriculture to a holistic perspective – where opportunities are created along the entire continuum.

50. Across the Continent food system 'platforms' have been established where stakeholders jointly identify and analyze problems, build stakeholder coalitions, generate ideas, and test these

[6] Food systems gather all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food and the outputs of these

innovations on the ground. All actors, especially those from more vulnerable and underrepresented groups, are part of the discussions and planning of actions. Innovations can take the shape of public policy, new business models, (re)framing cultural values and ultimately, behavior change. In Fort Portal, Uganda, policymakers were convinced to include nutrition in the district production and environment ordinance using evidence from food diaries kept by local mothers. Advocacy in Zambia has led to the elimination of government subsidies for maize and the extension of an e-voucher system to include diverse agriculture and crops produced by women.

We can create the momentum to reducing food losses and halving waste at consumption level, and promote more sustainable and healthy diets

51. As a key aspect of a holistic and integrated approach to food systems, governments must start measuring their food waste. A common use of agreed measurements and protocols such as the Food Waste Index, currently under development by UN Environment and FAO, can provide an effective platform to measuring waste at retail and consumption levels and target the causes and drivers of waste.

52. In addition, partnerships and voluntary agreements with the private sector can be effective in reducing food waste and in coordinating efforts to influence date labelling, shopping habits and behavior at household level. A suite of policies or regulatory measures can then be employed to address food waste bearing in mind different national circumstances.

Investing in resilient and climate-smart agriculture and sustainable value chains

53. Governments can lead by supporting partnerships with private actors and creating the conditions where investments can be channeled towards resilient and climate-smart agriculture and sustainable value chains. The Sustainable Rice Platform and the Biodiversity Agricultural Commodities Programme, in which companies, interested in promoting adoption of environmentally sound technologies and best practices, are collaborating with civil society organizations, academics and local communities to seek innovative solutions are relevant examples in this regard. Major private sector actors have committed to achieving sustainable sourcing within their supply chains through the Sustainable Rice Platform.

54. In collaboration also with the Climate & Clean Air Coalition (CCAC), some countries are implementing practical solutions for their agricultural systems. For example, Vietnam is using “alternate wetting and drying” (AWD) as an effective alternative to continuous. This has proven to reduce methane emissions by 48%, and cost-saving for farmers, as it requires a third less water than continuous flooding and improves the soil.

55. Governments can also play a significant role in influencing behavior when it comes to the environmental impacts of nutritional habits. As nutrition policies are mostly derived from national dietary guidelines, it is recommended that they are reformulated to integrate sustainability criteria and to reflect in prices the true cost of foods with high environmental externalities. The promotion of more plant-based meals in public institutions such as schools and hospitals and an increased dialogue with private sector companies to improve the nutritional quality of the food they produce and market are additional measures that can be considered.

56. Through rapid advances in turnkey technologies we are beginning to see innovative solutions to complex food system challenges that have hitherto proven intractable. These include food traceability and certification, crop monitoring, pest and disease prediction and climate monitoring. Technology convergence has led to a wide range of innovative digital solutions supported by public private partnerships. By using ICTs to measure food loss, governments and industry actors can identify supply chain 'hotspots' requiring targeted intervention.

Individual actions can change the world

57. Individual changes and actions can also add up to major reductions in food waste, reduced climate change impacts and a healthier environment. They can also help to stimulate a vibrant and diverse smallholder production sector that can thrive alongside agribusiness. The three top actions that people can take are: reduce their food waste; change to a more plant-based diets and preserve traditional food habits; eat seasonally and buy local and sustainable food products as well as certified products.

IV Life-cycle approaches to resource efficiency, energy, chemicals and waste management

Countries with policies that encourage decoupling economic activity and human well-being from resource use and environmental impacts deliver better socio-economic outcomes. Life-cycle approaches and strategies are essential to achieve this end.

58. Life-cycle approaches are essential tools to inform innovation towards resource efficiency, sustainable consumption and production and energy, chemicals and waste management. They have been used successfully in industry for many years to identify and address 'hotspots' in the value chain of specific economic activities and thus decouple resource use and environmental impacts from increase in production. Life cycle approaches can also be applied to identify and prioritize those sectors that drive bigger shares of the environmental footprint of the economy.

59. Life cycle approaches provide intelligence on the environmental (and often social) impacts related to production and consumption systems; as such, they are essential in informing innovative solutions to natural resources management strategies that advance circularity in our economies, designing sustainable business models and identifying climate-change related actions in the context of or nationally determined contributions. The systemic understanding provided by life cycle approaches allows decision-makers to understand and mitigate trade-offs between social, environmental and economic impacts thus accelerating the progress towards more sustainable consumption and production patterns and the 2030 Agenda for Sustainable Development.

60. Countries, regardless of their stage of development, with policies that encourage decoupling economic activity and human well-being from resource use and environmental impacts have been shown to deliver improved quality of life, better socio-economic outcomes, job creation and have often avoided burden shifting between sectors, regions and resources compared to those adopting a business-as-usual approach over the long term.[7]

61. Policymakers have multiple policy instruments at their disposal to develop and implement a balanced and comprehensive strategy to resource efficiency, energy, chemicals and waste management based on life cycle approaches. These range from bans, to energy efficiency subsidies or eco-taxes, to product sustainability requirements. Each of these instruments has associated strengths and limitations; one instrument on its own may not be sufficient to lead to a systemic transformation. What makes them effective in driving more sustainable consumption and production and in building circularity in our economies is the way in which they are combined and designed to address systemic issues and barriers.

62. The right mix of policy instruments will create the right context in which to accelerate innovation for sustainable consumption and production only when coupled with an effective implementation plan and monitoring measures. [5]

[7]International Resource Panel (2018) Re - defining Value – The Manufacturing Revolution. Remanufacturing, Refurbishment, Repair and Direct Reuse in the Circular Economy; (2017) Assessing Global Resource Use. A systems approach to resource efficiency and pollution reduction; See www.resourcepanel.orgwww.resourcepanel.org

Regulatory instruments are helpful to mandate or prohibit specific practices or define a level of environmental performance to be achieved

63. By setting appropriate stringency levels and applying life cycle approaches, regulatory policy instruments provide a level playing field for all economic actors. They are normally combined with a monitoring mechanism and sanctions for non-compliance. By providing a clear signal across the market, regulatory instruments can also help connect various parts of the system towards a common direction of change.

64. The bans on single-use plastics implemented by the European Union and numerous developed and developing countries alike have proven to help create joint actions from retailers, waste managers, consumers and entrepreneurs to find and diffuse alternative solutions and adjust common behaviours. They triggered innovative ways to change the design, production, consumption and disposal of plastics contributing to more resource efficient and sustainable use of resources, the transition towards circularity in our economies and the reduction of pollution.

65. An international commitment to work towards phasing out single-use plastics, starting with plastic bags, straws, plates, cups and cutlery by 2025, would bring to scale existing national efforts by incentivizing and encouraging efforts form all actors of the plastics value chain, including the identification and dissemination of the private sector to find or scale-up affordable and eco-friendly alternatives. .

Public procurement policies can stimulate and steer market demand for domestic sustainable products

66. In some countries, public purchase amounts to 10%-15% or more of the country's gross domestic product. In this respect, government has considerable purchasing power and can create significant market demand for innovative products and services.

67. Sustainable public procurement is an accelerator towards sustainable consumption and production patterns. It is understood as a process whereby public organizations meet their needs for goods, services, works and utilities in line with national policies and priorities, in a way that achieves value for money on a whole life-cycle basis, in terms of generating benefits not only to the organization, but also to society and the economy, whilst significantly reducing negative impacts on the environment.

68. Engaging all countries to incorporate sustainability in their public procurement by 2015, and increasing the level of ambition in those countries that have policies in place, will drive to innovative solutions for sustainable consumption and production.

New governance approaches and partnerships are indispensable to support the transition to sustainable consumption and production

69. Achieving sustainable consumption and production patterns requires cooperation across a wider range of government agencies, and more successful and larger scale public-private partnerships than have generally been seen to date. Both these objectives are cross-cutting and are effectively key enablers for the achievement of the Sustainable Development Goals. However, the

reality is that current institutions in government and indeed in other organisations are not constructed to reflect the transversal nature of these objectives, nor necessarily to design the policies, practices and partnerships necessary to achieve them.

70. New ways of working together across government, between the public and private sectors while also engaging [6] the many able and committed civil society organisations working on environment and sustainable development, are required. In some cases, this may point to new institutions or new partnerships, but often it will come down to enhanced collaboration across existing institutions and enhanced inter-ministerial coordination.

71. One example where global partnerships can bring local benefits is the fashion industry. This industry is valued at $2.5-3 trillion-dollars. It employs approximately 60 million people worldwide. Fashion is a key economic sector, which has an essential role to play in achieving the Sustainable Development Goals. There is an urgent need to place improvement of the fashion industry's environmental, social, and ethical footprint on the global sustainable development agenda. Nearly 20 percent of global waste water is produced by the fashion industry, which also emits more carbon emissions globally than all international flights and maritime shipping combined. Fashion has been identified in recent years as a major contributor to plastic pollution in our oceans, which seriously threatens marine ecosystems. A third of all primary microplastics in our oceans come from washing textiles, including our clothes. Some forms of "Fast Fashion" can also be linked to dangerous working conditions due to unsafe processes and hazardous substances used in production.

72. The United Nations Alliance for Sustainable Fashion is an innovative approach by the United Nations and specialized agencies, international and regional organizations to put textiles and fashion on a path to long-term prosperity financially, socially, and environmentally. The Alliance aims to enhance collaborative action to make the topic more prominent amongst UN Member States, the industry and the broader public.

Supporting global efforts that help government and other stakeholders act on the ground

73. More efforts need to be dedicated to disseminate the benefits and impact of sustainable consumption and production and its role in addressing key environmental and societal challenges, thereby catalyzing ambitious action by governments and other stakeholders on the ground. At the global level, the One Planet Network,[8] is a key global multi-stakeholder partnership.

74. The 2018-22 strategy of the Network focuses on supporting the implementation of Sustainable Development Goal 12, through its 611 partners grouped in six programmes on food, buildings, tourism, public procurement, consumer information and sustainable lifestyles. More than 20 United Nations entities and 130 national focal points are engaged in this network, which has a strong focus on implementing and scaling up existing policies and practices.

[8] ww.oneplanetnetwork.org
[9] www.resourcepanel.org www.resourcepanel.org

75. However, despite its importance as a catalytic tool to promote innovation and reduce poverty, resources available to implement the One Planet Network strategy is not enough on its own. A global commitment towards the resourcing and implementation of the Network's strategy is needed to support innovation and enable the deployment of expertise required to construct more sustainable value chains in developing countries.

Science, Research and Innovation for life-cycle management and resource-efficiency

76. The capacity to understand and apply life cycle approaches is needed on several fronts. One of the most authoritative sources of knowledge with strong links to research and development based on life cycle approaches in relation to resource efficiency and global resource management is the International Resource Panel.[9]

77. Another example of public-private, multi-stakeholder partnership enabling the global use of credible life cycle knowledge by private and public stakeholders is the Life Cycle Initiative. Contributing since 2002, this initiative enhancesthe enabling conditions for the global application of life cycle approaches, such as improved access and interoperability of Life Cycle Assessment datasets, consensus on impact indicators, and guidance and capacity development especially in developing countries.

78. There is however an opportunity to strengthen, align and streamline existing international initiatives aimed at achieving internationally agreed life-cycle management and resource-efficiency targets and indicators, including those relevant for the Sustainable Development Goals. To this end, the visibility and authority of the International Resources Panel could be enhanced by providing regular reports to the UN Environment Assembly and other international fora on progress in achieving resource-management related goals and targets.

Sustainable resource mobilization to unlock practical, affordable and innovative environmental solutions

79. Considerable attention has so far been focused on policies and capacity building activities to promote the shift to sustainable consumption and production patterns, but less on re-directing public and private financial investments to support this shift. Achieving greater scale will critically depend on substantially increasing financial investment with the same objectives, from both public and private sources.

80. Fostering more collaboration between financial institutions (national and multilateral) and development cooperation agencies at the country level can help developing countries and organizations, including the domestic and international private sector, to better target resource mobilization efforts to the right sectors and the right funds and financial mechanisms.

81. Some national and multilateral development are already paving the way to this approach notably in the disbursement of climate change funds such as the Climate Investment Funds (CIFs), and those of the Global Environment Facility (GEF) and Green Climate Fund (GCF). The African Development Bank has identified the potential to scale up projects managed by National Cleaner

Production Centres (NCPCs), with this type of finance, to support more enterprises in more locations. That bank also manages funds drawn from other International Financial Institutions, and there are further opportunities to draw down finance from entities such as the Sustainable Energy Fund (SEF) and the African Climate Change Fund to support the shift to sustainable consumption and production patterns. There is a need to explore these opportunities more actively, in conjunction with private investors.

82. Creative financing options can also be a key to the uptake of environmental solutions. There needs to be seed financing and early stage capital to support businesses that may not yet have commercial returns, but where there is significant growth potential, and where there may be some financial returns, together with high social and environmental benefits. For example, in the establishment of new index insurance products for small farmers, modernizing weather, climate and crop planting information services and providing open access to seeds. Creative financing options can be the key to the uptake of environmental solutions.

83. "Innovative financing" is less about how instruments are used, and more about addressing specific market failures, risk sharing and/or transfer among various parties, and coordinating sources of public and private financing. To this end, greening the financial system to support environmental innovation will increasingly depend on the development of: open-access, standardized systems and platforms for companies, financial institutions to transparently report on environmental, climate and sustainability performance in an open and accessible manner, and better alignment of financial regulation in regulated financial industries, e.g., insurance, banking, investments, with environment and climate change, including supporting the development of disclosure regulations.

84. A shift from what is currently more of an organic way of investing in green business and value impact investing towards harnessing the vast financial capacities of mainstream investments and changing the culture and mentalities of investors to increase investments in green technologies and innovation is possible. Examples include The Tropical Landscape Finance Facility (TLFF), founded by UN Environment, International Centre For Research in Agroforestry, ADM Capital and BNP Paribas; all these help to leverage public funding to unlock private finance for sustainable land use, including in agriculture and ecosystem restoration and for investments in renewable energy. Also, promising are innovative governance approaches, such as the Extractive Industries Transparency Initiative (EITI), which extend the concept of transparency beyond financial aspects to include social and environmental performance. Such approaches, by increasing transparency, improve authorities' ability to manage disputes and thus reduce the scope for conflict over scarce natural resources.

V Innovative sustainable business development at a time of rapid technological change

Rapid technological change can help unlock a vast set of opportunities to widen prosperity and generate long-term sustainable value from innovative solutions that encourage natural systems to flourish and entrepreneurship to grow

85. Innovative sustainable business represents a trillion-dollar opportunity to be seized by companies that can bring value to people and the environment. Since our consumption and production patterns must change so radically, companies can seize the opportunity to drive the change by embracing emerging innovative technologies that for example, support standardization, transparency of across the value chain and sustainable production.

86. Countries and businesses alike can boost the economy by unleashing the creativity and entrepreneurship of women in the green sectors. Countries' economic potential can never be fully realized if half of their population are not able contribute their creativity, skills and entrepreneurship. Women's empowerment in the green sectors make business and economic sense.

Supporting innovative models for business that work for People and Planet

87. Businesses that have successfully adopted sustainable innovative business models have created significant value for themselves and for society[7]. This shift has been encouraged by the opportunities of reaching new market segments, including low-income consumers, addressing untapped demand where no solution exists in the market and by the resource efficiency benefits that multiply across the entire supply chain. Being ahead of more stringent and new regulation and standards has also been an important driver and incentive for change. The cooperation with actors in the value chain in 'open innovation' schemes is also helping business acquire and develop innovation capabilities and resources.

88. Innovative business models that address the major societal challenges, can only be supported through a systematic, system-wide perspective. As such the enabling role of policies is not only in regulation and providing incentives. It is also about mobilizing different types of stakeholders and facilitating productive partnerships and cooperation to promote competition of ideas in the quest for most effective solutions.

89. Innovative models are being applied by companies of all sizes and have stimulated the creation of many startups. Some of these models can be mapped squarely onto asset sharing, product as a service, closed-loop, resource recovery and circular supply chain, digitalization and product life extension. Innovative business models such as these can support companies in building circularity into their production processes and along their supply chains, both of which will help to ensuring long-term and system -wide progress to fight pollution. This could entail introducing fully renewable, recyclable or biodegradable materials that can be used in consecutive lifecycles. Other innovative business models might concentrate on recovery and recycling which would help

[7] UNEP 2014, The Business Case for Eco-innovation

create consumption and production systems, focusing on the recovery of end-of-life products to capture and reuse valuable material and components.

90. Consumers may also discard products they no longer value, but which still hold considerable value. The product lifetime extension business model seeks to recapture such value, through repairs, upgrades or remanufacturing[8] An additional approach to promote longevity, reliability and reusability is through the "product as service" business model. In this case, the consumers lease or pay for the service offered by the product, rather than the product itself. This can enhance performance and durability and help to build a more responsive relationship with consumers.

A new form of rebalancing is needed, one that harnesses the power of business and citizens as active co-creators and problem solvers

91. As the world's middle classes get richer, more populous and more mobile, the world's appetite for commodities, meat, fish and natural resources is projected to grow with negative impacts in greenhouse gas emissions, water and land use. Of the estimated 90 billion tons of resources used in 2017, more than 50% was dispersed or emitted as waste; and less than 10% was cycled back into the economy the following year. Products' lifetime has shortened, and the throwaway culture has become the norm. With the global increased demand for electronics, e-waste will also continue to be a growing challenge[13]. Hence, the market opportunity for innovative business solutions that promote sustainable consumption and production through low-carbon lifestyles.

92. Individuals, citizens and faith-based initiatives will need to be fully engaged in this systemic transformation. New lifestyle trends are emerging, ranging from people going to "zero waste," business emerging around the sharing economy, and using digital technology to measure and make sustainability more accessible. These are all contributing to inspire behavioral changes amplified by messages from celebrities, youth and faith leaders, and to making our economies more circular and green.

Investing in data sharing and participatory science

93. Open science and data sharing provides access to publicly funded research by disseminating knowledge on digital platforms with little or no restrictions. Treating public research and environmental information as a public good enables people to prize a clean environment as the enabler of a prosperous life. It also opens new market opportunities, particularly for small and medium enterprises.

94. Open data and data sharing also creates market opportunities for small and medium-sized enterprises to create innovative products and services. By allowing researchers and users to tap into vast data resources, open data and data sharing are opening new, unanticipated avenues of discovery and enterprise by combining data streams, avoiding duplication and ensuring that claims can be scrutinized and reproduced.

[8] http://www.resourcepanel.org/reports/re-defining-value-manufacturing-revolution

95. Two important related developments are the increase of citizen science using mobile technology to crowd source information to create awareness on pollution and the development of open tech and open source software adopted by some of the largest companies to bring in external sources of innovation, for example to develop solutions for product transparency, including labelling systems and digital product resource passports. For example, one of the key challenges in the provision of commercial environmental data for companies is moving from a high unit cost, low number of users – to a low unit cost with a global network of users. Making this jump, while reducing transaction costs and onboarding friction while also maintaining the commercial value of the data may be extremely difficult. Another challenge is establishing the correct mix of incentives for companies to publish and share relevant non-commercial environmental data as part of a global public good and as a component of their social license to operate.

96. To fully capitalize on these technologies means addressing current asymmetries between what the digital and physical worlds can achieve. For example, the transition towards low-carbon, resource-efficient and socially-just cities and infrastructure, will benefit enormously from information about urban metabolism - the flow of resources through a city – and the spread of services, which artificial intelligence and big data can provide. But such a transition also needs institutions which are willing to change by acting on innovative thinking about how cities can improve citizens' well-being and anticipate emerging risks. An integrative approach to infrastructure implementation that breaks down government departmental siloes and identifies synergies among infrastructure types is essential in ensuring equitable accessibility.

Governments, companies and citizens should consider how a digital ecosystem for planetary data will be built, financed and governed in benefit of the environment

97. In today's world, data and information are two of the world's most valuable resources. Governments, companies and citizens should consider how a digital ecosystem for global environmental data will be built, financed and governed. We are at an important crossroads where decisions that we take today will influence the scope and shape of the world's data ecosystem for the coming decades.[9] For example, in the coming years personal data will become a source of revenue for the individual. Fair and open access to knowledge and environmental information of relevance, constitute fundamental keys to make innovation sustainable.

39. While some mechanisms exist for sharing critical information and knowledge about solutions within the environmental community, there is a need for a global environmental data strategy under the auspices of the United Nations, building on the Addis Ababa Action Agenda. The three main functions such strategy could serve are, first to support the provision of comprehensive and open environmental data and information; second, the prioritization of innovations and measures that address coherently environmental, health and economic benefits and costs, including cost of inaction and gender impacts; and lastly by strengthening the strategic partnerships and collaborations and enhancing initiatives that catalyze and accelerate positive change.

[9] See Jensen, D and J. Campbell. White paper: Digital earth: Building, financing and governing a digital ecosystem for planetary data . UN Science-Policy-Business Forum on the Environment

VI Fundamental change for a regenerative planet

Business unusual approaches to addressing environmental challenges, reducing poverty and promoting sustainable consumption and production

98. System-wide transformations based on innovation, circularity and sustainable consumption and production, as well as green investments to reduce waste and pollution are urgently needed. Delivering impact often involves system-wide and multi-beneficial policy-making that ensures implementation and protects the very poor and vulnerable. The steps proposed by the International Resource Panel constitute a useful guide for Member States in this context.

99. New ideas and knowledge, technologies and businesses processes are providing solutions to some of societies greatest problems: food insecurity, pollution, biodiversity loss and resource scarcity. Some of these solutions have the potential to shift our economies towards more sustainable patterns of production and consumption. To ensure that this happens the following **four major actions** will be needed:

(i) society needs to stimulate and strengthen an open innovation culture spanning sectors, actors and collaborators with the right enabling conditions (including leadership and governance instruments that reward innovation and circularity while stimulating openness and collaboration; transitioning towards a knowledge society through education and continuous capacity building; and widely channelling finance and technology towards sustainability);

(ii) food security needs to be addressed through a systems approach that tackles all aspects of production and consumption and which makes best use of the latest technologies and innovative thinking, (including the latest research on crops and climate resilience, earth observation, consumer behaviour and big data and artificial intelligence, to restore soil productivity, improve crop forecasting, raise yields without the need for intensification, reduce post-harvest losses, respond to changing consumer preferences, improve food-marketing and standardization, increase transparency of transactions along the supply chain, for example using block chain technologies, and ensure food prices reflect external costs to society and the environment);

(iii) adopting life-cycle approaches in manufacturing and production systems to increase resource efficiency and circular use of resources (including policies and actions to support sustainable consumption and production and energy, chemicals and waste management; policy mixes that incentivize positive behaviours such as zero waste and consumer demand for reuse of resources whilst reducing pollution; providing business and sector-based standards, targets and measures)

(iv) supporting innovative business practices that enhance livelihoods and sustainable development (through market-wide policies on open technology and access to information; innovative and affordable financing; transparency in supply chain transactions; skills development and empowerment through life-long learning and wider stakeholder participation).

100. Adopting actions such as these will help member states touch the lives of the poorest and the most disadvantaged, by placing their needs at the heart of our thinking on how to respond to today's environmental challenges using the best of the r1apid advances in technology and changes in thinking toward sustainability and regenerating our planet.

By embracing a culture of innovation, the UN Environment Programme can scale-up its ability to enable nations and peoples to improve their quality of life without compromising that of future generations

101. Innovation is finding solutions for today's problems and embracing a forward-thinking culture that fosters ingenuity. By embracing the key enabling factors of an innovative culture (creativity, openness and participation) the UN Environment Programme itself can respond to the policy needs of all member states and scale-up successful approaches and innovative solutions wherever they come from.

102. The UN Environment Programme core delivery framework can be further strengthened by continuously investing in a strong science-policy interface and thus enhancing the mobilization and use of science and data for better decisions. The science-policy arena cannot be relegated to periodic meetings for erudite discussions; it must be an inclusive arena that engages all actors to catalyze immediate actions and system-wide solutions to environmental challenges. The UN Environment Programme can improve its support to coalitions and partnerships, if it effectively harnesses the powerful tools of the latest information technologies including big data and artificial intelligence. Enhanced communication techniques can greatly facilitate the development of networks vital to replicating and scaling up successful policy responses. The Programme therefore needs to deepen its ability to harness these tools and assist countries and their citizens to use them, as well.

103. The Programme can also deepen its efforts towards more impactful policies and partnerships that respond to the systemic nature of the Sustainable Development Goals, the Medium-Term Strategy and the reform of the UN development system. By closely working with Member States and other stakeholders, the Programme can prioritize its work on circularity and pollution as well as in securing a new deal for Nature and biodiversity as inter-connected priorities contained in its Programme of Work.

104. In 2022 the UN Environment Programme, established after the United Nations Conference on the Human Environment (also known as the Stockholm Conference), will mark its fiftieth anniversary. It is essential to ensure that countries guide the organization to align itself to the expectations set out for a stronger and nimbler Programme, guided by the values and principles set out in the Charter of the United Nations and in General Assembly Resolution A/RES/27/2997 "Institutional and financial arrangements for international environmental cooperation". Such milestone can be a useful opportunity to take stock of progress, raise awareness about global environmental trends and renew the commitment towards the implementation of the environmental dimension of the 2030 Agenda for Sustainable Development.