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Second Berlin Forum on Chemicals and Sustainability 4-5 September 2023

Pollution arising from the unsustainable use and management of chemicals and waste is one of the three planetary crises currently facing the world. Chemical pollution has a severely detrimental effect on human health, the global economy, and the environment, and addressing the problem is now recognized as integral to achieving the 2030 Agenda on Sustainable Development. A pollution-free planet is therefore the goal; however, achieving this requires the active participation of a range of stakeholders, including representatives from government, intergovernmental organizations, industry, and civil society.

To work towards this goal, the Second Berlin Forum on Chemicals and Sustainability convened under the theme “Just Transition Towards a Pollution-Free Planet.” The Forum’s objective was to foster a shared understanding of key international issues and priorities regarding chemicals and waste management, and to explore possible solutions. Recognizing the prevalence and use of chemicals across many economic areas, and the need to involve key players, the Forum focused on the contributions of the health, food, and labor sectors, and on the urgent need for innovative solutions to help achieve the desired just transition.

Convening ahead of the Fifth International Conference on Chemicals Management (ICCM5) to be held at the end of September 2023 in Bonn, Germany, the Forum also sought to support preparations for the Conference and promote a high level of ambition for the anticipated adoption of a new multi-sectoral and multi-stakeholder framework on chemicals and waste.

The Forum kicked off with opening remarks from the host, German Minister for the Environment Steffi Lemke, followed by high-level statements from Mark Brown, Prime Minister of the Cook Islands, EU Commissioner Virginijus Sinkevicius, and German Minister for Development Cooperation, Svenja Schulze. Prior to four thematic sessions, Richard Damania, Chief Economist, Sustainable Development Practice Group, World Bank, gave a keynote presentation on the cost of inaction on chemicals management, focusing on lead, cadmium, asbestos, and air pollution as hallmark examples leading to health and economic burdens. The Forum then featured four interactive multi-stakeholder, multi-sectoral dialogues on: food security;



Steffi Lemke, Federal Minister for the Environment, Germany

human health and the environment; labor and occupational health; and innovation for just transition.

Participants from intergovernmental organizations, environment, health, labor, and agriculture ministries, the private sector, unions, non-governmental organizations, youth, women and academia, discussed national initiatives and policies from,

In This Issue

Report of the Second Berlin Forum on Chemicals and Sustainability	2
Day 1: Welcome and Opening	2
Keynote Presentation: Economic Impact of Unsustainable Chemicals Management and Possible Solutions	2
High-level Dialogue on Food Security	3
High-level Dialogue on Human Health and the Environment	5
Day Two: Opening	6
High-level Dialogue on Labour and Occupational Health	7
High-level Dialogue on Innovation for Just Transition	8
Closing	10
Upcoming Meetings	11

inter alia, Kyrgyz Republic, Poland, Sri Lanka, Canada, the US, South Africa, India, China, Uruguay, Peru, the UK and Belgium, all of which provided insight into how some of these can be scaled up to the international level. Examples included: the use of extended producer responsibility as a management tool in India; the national action plan on combating antimicrobial resistance and endocrine disruptors in Belgium; and the new solid and hazardous waste bill the Cook Islands intends to adopt. Several participants underlined that chemicals will continue to have a role in a range of economic sectors, noting, for instance, their role in supporting the food sector. They highlighted the need to ensure this is done sustainably, with Elizabeth Mrema, Deputy Executive Director, United Nations Environment Programme (UNEP), for instance, stressing that the benefits of chemical use should be retained, while minimizing pollution.

Shannon Lisa, representing the Chemicals and Waste Youth Platform, said efforts should focus on “showing the human face of the issue” by identifying those most impacted by chemical pollution. She noted how the youth platform has grown from a dozen to over 900 members, demonstrating increased youth interest and engagement in the issue of chemicals management.

Participants also considered potential elements of the new agreement expected to be adopted at ICCM5, underscoring the need to sustainably transition away from highly hazardous pesticides (HHPs), recognize traditional knowledge and citizen science, and put human rights at the center of the new instrument. The Forum concluded with a call by Christiane Rohleder, State Secretary, Federal Ministry for the Environment, Germany, for all stakeholders to work together to reduce the chemicals footprint of our societies. She urged drawing on the spirit of unity and action to reach an ambitious agreement at ICCM5.

The Forum brought together an increased diversity and number of the voices needed to provide solutions to the chemicals pollution problem, including: government ministers; representatives of intergovernmental, regional and non-governmental organizations; industry; workers and trade unions; science and academia; and civil society. The Forum took place from 4-5 September 2023 in a virtual format and was hosted by Steffi Lemke, German Federal Minister for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection.

Report of the Second Berlin Forum on Chemicals and Sustainability

Day 1: Welcome and Opening

On Monday, 4 September, Rolph Payet, Executive Secretary, Basel, Rotterdam and Stockholm (BRS) Conventions Secretariat, and Minu Hemmati, independent consultant, ICCM5 Presidency Team, opened the Forum, noting its focus on a “Just Transition Towards a Pollution-free Planet.”

Opening Remarks: Steffi Lemke, Federal Minister for the Environment, Germany, underlined that the pollution crisis affects all economic sectors and all aspects of our lives. She noted that without the sound management of chemicals, achieving the 2030 Agenda’s promise of “leaving no one behind” will be impossible. Stressing that the clock is ticking as pollution continues to increase, she noted the Forum aims to provide



Rolph Payet, Executive Secretary, BRS Conventions

a platform for broad dialogue on global chemicals and waste management, giving different perspectives a chance to be heard and taken forward.

High-level Statements: Mark Brown, Prime Minister, Cook Islands, called for the sound management of chemicals and waste throughout their lifecycle, including addressing leakage to the environment. Noting the Cook Islands is reliant on imports but does not always have accurate information about the contents of the products nor the facilities to dispose of them sustainably, Prime Minister Brown described measures such as the use of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) and the planned adoption of a bill on solid and hazardous waste. Recognizing the special circumstances facing small island developing states, he encouraged all participants to maintain their commitment to a blue continent and blue planet, by, for example, reducing the amount of toxic chemicals entering the Ocean.

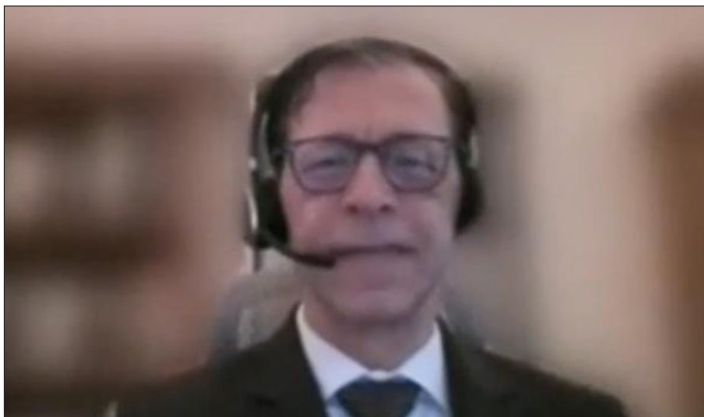
Virginijus Sinkevičius, EU Commissioner for Environment, Oceans and Fisheries, noted that Europe aims to achieve a toxic-free environment in a world where chemicals still play a significant role. He noted that “the future will be built with chemicals” and called for the upcoming ICCM5 to adopt an ambitious international framework for the Strategic Approach to International Chemicals Management (SAICM) beyond 2020 that reflects the urgency of dealing with the current pollution crisis.

Svenja Schulze, Federal Minister for Economic Cooperation and Development, Germany, identified the inappropriate handling of chemicals along their lifecycle, from production to disposal, as a key cause of pollution. She stressed the need to transform lifestyles and economies towards sustainability. She urged participants to use the Forum to pave the way to a successful ICCM5.

Introductory Remarks by Moderators: Moderator Payet outlined that the objective of the Berlin Forum was to generate political and public attention to achieve an ambitious new framework for the sound management of chemicals and waste beyond 2020 at ICCM5.

Keynote Presentation: Economic Impact of Unsustainable Chemicals Management and Possible Solutions

On Monday, Richard Damania, Chief Economist, Sustainable Development Practice Group, World Bank, presented on the



Richard Damania, Chief Economist, Sustainable Development Practice Group, World Bank

economic impact of unsustainable chemicals management and possible solutions. Noting that chemical pollution affects everyone and everything, and could be an even more difficult problem to solve than climate change, he provided a perspective from five specific chemicals discussing their use and impacts on health and the environment.

Starting with lead, Damania explained that although it has been phased out of gasoline, it is still present in spices, cosmetics, artisanal medicines, foods, paint, cookware, toys, and other sources. He explained that lead levels in human blood are higher than previously thought and that the health implications are sobering, causing a higher mortality rate than air pollution. He explained that lead affects learning, lowering intelligence quotient (IQ) levels and ultimately causing a loss of gross domestic product (GDP).

Damania then discussed the Haber-Bosch Process that takes nitrogen from air and combines it with hydrogen to produce ammonia, which is the basis of synthetic nitrogen fertilizers. This German invention enabled the green revolution but also led to an escalating use of nitrogen. He said nitrogen is only partially absorbed by crops (40%) and the rest is leached into waterways, where it can cause hypoxia, and into the air where it transforms into nitrous oxide, which is a very potent greenhouse gas. On air pollution, he underscored how it impairs everyone's ability to perform and noted that subsidies for air-pollution-causing fossil fuels dwarf those for climate change. On cadmium, he described sources and health impacts, such as the bone softening disease itai-itai, kidney failure, and cancer. Noting we have known the risks linked to asbestos since the second world war, he described the costly legacy of the chemical.

High-level Dialogue on Food Security

Moderator Payet explained that this Monday session would investigate how stakeholders involved in the production, processing, trading, and recycling of agricultural commodities and food can become equipped with the necessary skills to ensure both food security, and human and soil health. He said speakers would address what a future SAICM framework should encompass.

In his keynote address, Martin Frick, Director, Berlin Global Office, World Food Programme, said today, about 345 million people face high levels of food insecurity. He highlighted three main causes: an increased number of live conflicts around the globe, with a particular emphasis on the impacts of the war in Ukraine on the provision of crops; the consequences of COVID-19, particularly in African countries where inflation is on the rise and ordinary families can no longer afford to eat; and climate change which also causes surges in the number of refugees. He called for increased resilience in the food systems and for a diversification of the current three staple crops of wheat, maize, and rice. He noted that, for instance, lentils would be the crop of choice in India, while in Western Africa it would be millet. In closing, he drew attention to the importance of soil health.

High-level Statements: Haoliang Xu, Associate Administrator, United Nations Development Programme (UNDP), recognized the critical role chemicals play in society whilst cautioning against their negative impacts, noting those on human health are often acute and long-term. He highlighted that UNDP supports governments to repurpose agriculture subsidies and incentives towards emissions-free agriculture support, protect ecosystems and human rights, and reduce chemicals use, while improving livelihoods and increasing food access and affordability.

Chikelu Mba, Deputy Director of Plant Production and Protection Division, Food and Agriculture Organization of the United Nations (FAO), underscored that the Sustainable Development Goals (SDGs) 2030 deadline is just seven years away. He cautioned against increased food production at the expense of environmental and human health, and called for increased collaboration amongst different stakeholders.

Tadesse Amera, Co-Chair, International Pollutants Elimination Network (IPEN), discussed unintentional pesticide poisoning and their impacts, as well as the phasing out HHPs. He drew attention to the role of the African Ministerial Conference on the Environment in regional preparations for ICCM5.

Arturo Gavilán García, General Director, Integral Management of Hazardous Materials and Activities, Secretariat



Haoliang Xu, Associate Administrator, UNDP

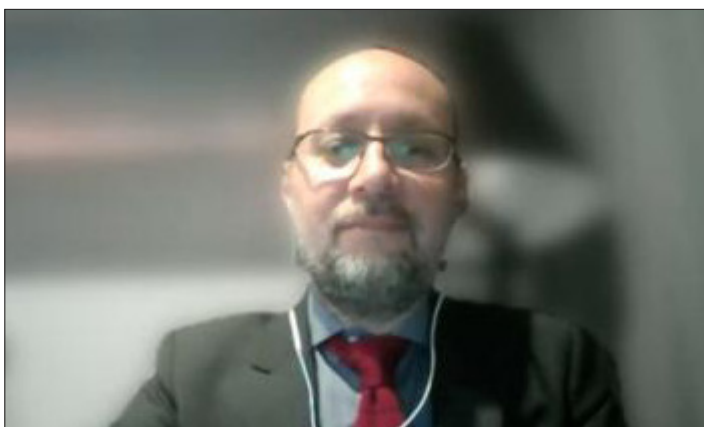
of Environment and Natural Resources, Mexico, said that to improve living standards in rural and urban areas, chemical use has increased over time. He said the adequate and sustainable disposal of chemicals remains a challenge, with many pollutants lacking adequate regulation. He said in Mexico, several management activities are taking place, including a national development plan, which aim to ensure a healthy environment for all people.

Anke Kwast, Vice President, Climate Neutral Roadmap and Business Support, Yara International, Norway, noted fertilizers are essential to food production and soil regeneration. She said Yara is working with farmers on nutrient use efficiency, best practices, and the use of appropriate tools. She encouraged a well-rounded approach to agriculture, sustainable development, and urban and rural development, and welcomed the future ICCM5 framework.

Gerardo Amarilla, Undersecretary of the Ministry of Environment, Uruguay, noted his country's reliance on agriculture and said sustainable production methods are key. He described work to improve knowledge on the sustainable use and production of pesticides, such as the development of guidelines. He underscored the proposed national pesticides register, and the importance of training and coordination of relevant organizations.

Ophelia Nick, State Secretary to the Federal Minister for Food and Agriculture, Germany, highlighted a change in mindset to end the overexploitation of nature and said efforts are underway to improve the resilience and climate-friendliness of farming in Germany. She called for directing attention to fields, arable lands, and fertile soils as soils are the cornerstone of food systems. Nick called for reinforcing our shared commitment to reduce by half the use of pesticides and mineral fertilizers on agricultural fields by 2030. Noting the need to deliver on our shared responsibility, she pointed to work on establishing frameworks on fertilization for a sustainable future.

Panel Discussion: Marcos A. Orellana, UN Special Rapporteur on toxics and human rights said the right to food and food security is linked to several other human rights such as the right to information and human health, saying these require the immediate phase-out of HHPs.



Marcos Orellana, UN Special Rapporteur on toxics and human rights



Emily Rees, President and CEO, CropLife International

Daniel May, Deputy Programme Manager, Initiative for Sustainable Agricultural Supply Chains/GIZ, said multi-stakeholder approaches and cross-sectoral dialogues are needed to address the challenges facing the sector. He called for aligning approaches by sharing information and standardizing methodologies.

Emily Rees, President and CEO, CropLife International, said the new global framework must deliver tangible progress on the ground, including in the Global South and a sustainable transition away from HHPs. For the global agricultural transition to succeed, she explained that a wider, more inclusive discussion on the global food system is required as crop productivity must increase significantly by 2050 using less land. Innovation, she said, holds the key to a successful and just transition.

Regarding the possibility of including an HHP phaseout in the new beyond 2020 chemicals framework, Rees pointed out that about 20-40% of crops are lost to pests and diseases; called for considering conditions for farming around the world; and underlined that when identifying solutions, there can be no “one-size-fits-all” approach. She called for a sustainable transition that considers the complexity of different food systems and said a complete phase-out by 2030 is destined to fail.

Orellana said stakeholder engagement should start with the recognition of traditional knowledge and citizen science. He called for using a precautionary approach that accounts for the hazards of HHPs.

In the Forum's first audience poll, regarding the most important leverage points along agricultural value chains to ensure they are clean, safe and fair, participants selected government action in the form of legislation and regulation, and elimination of HHPs as key points.

Closing the first dialogue, Moderator Payet recapped some of the points made, including the need to meaningfully engage with stakeholders to address the chemicals challenge, identify alternatives, and ensure the rights of farmers and consumers. He highlighted the importance of science, and of Indigenous, civil society, and other stakeholder knowledge.



Chikwe Ihekweazu, Assistant Director General, WHO



Agnieszka Dudra, President, Bureau for Chemical Substances, Poland

High-level Dialogue on Human Health and the Environment

In his keynote address on Monday, Chikwe Ihekweazu, Assistant Director-General, World Health Organization (WHO), speaking on behalf of Tedros Adhanom Ghebreyesus, Director-General, WHO, underlined that every death from chemicals exposure is a preventable tragedy. He highlighted the [WHO Chemicals Road Map](#) as a useful tool for enhancing health sector engagement in the SAICM process and negotiations for the new instrument. Ihekweazu reiterated the WHO's commitment to build basic capacity to manage chemicals, and to implement the new instrument, when adopted.

High-level Statements: Melis Turgunbaev, Minister of Natural Resources, Ecology and Technical Supervision, Kyrgyz Republic, illustrated a national perspective, drawing parallels with other mountainous countries. He drew attention to the impacts of climate change, such as on glaciers and water resources, including clean drinking water. He noted landslides, mudslides, and avalanches as consequences of rising temperatures in the region. Underscoring the damage of widespread fertilizer use, he discussed obsolete chemicals, unsafe storage facilities and burial grounds, and a lack of special destruction facilities.

Zakia Khattabi, Minister of Climate, the Environment, Sustainable Development and Green Deal, Belgium, drew attention to the One [World One Health](#) approach and its application in Belgium. She described it as a cross-cutting vision that requires collaboration between different stakeholders. She mentioned her country's national action plan on combating antimicrobial resistance and endocrine disruptors.

Khattabi announced her government's plan to increase Belgium's contribution to the Special Programme, a UNEP funding programme dedicated specifically to support country-driven institutional strengthening for chemicals and waste management.

Richard Fuller, President, Pure Earth, suggested focusing on the chemical causing the most damage: lead. He further promoted prioritizing chemicals or groups of chemicals based on impact and damage, not just on risk and hazards, in ICCM5 and SAICM.

Agnieszka Dudra, President, Bureau for Chemical Substances, Poland, described national efforts for the sound management of chemicals, overseen by Poland's Ministry of Health, underscoring the importance of collaboration and noting health issues must be taken into account.

Hemantha Withanage, Chair, Friends of the Earth International, provided a national perspective for Sri Lanka, noting that both approved and non-approved chemicals are found in the country. He underscored health impacts, particularly in the farming community, and a lack of public awareness of the hazards.

Greg Carreau, Director General, Safe Environments Directorate, Health Canada, noted domestic and global efforts to manage chemicals. He discussed initiatives to reduce risks, with a robust national management framework, noting everyone in Canada has the right to a healthy environment.

Jo Tyndall, Director, Environment Directorate, Organisation for Economic Co-operation and Development (OECD), discussed recent work on the economic costs of the impacts of chemicals on human health, such as the cost of lead exposure and citizens' willingness to pay for avoiding potential harm. She stressed the importance of putting a figure on the cost from adverse health effects caused by chemicals and the need for legislation to regulate chemicals that adversely affect humans and the environment.

Hanna-Andrea Rother, Professor and Head, Environmental Health Division, University of Cape Town, called for the protection of everyone's health from chemicals and waste and for exposure to be limited for several chemicals. She drew attention to an international code of conduct for chemicals proposed by the African Region under SAICM.

Felix Wertli, Swiss Ambassador for the Environment, Head of the International Affairs Division, Swiss Federal Office for the Environment, expanded on how the chemicals science-policy platform can be designed to protect human health and the environment. He suggested using the best available science from a broad network of scientists so that governments not only understand how to address the issues but also comprehend what the key issues are.

Catherine Russell, United Nations Children’s Fund (UNICEF), lamented the large number of children under five that die each year due to pollution. She said many health systems are ill-equipped to recognize, diagnose, and treat exposure to harmful chemicals, noting that chemicals should be produced and used in ways that minimize their impact on human health.

Monika Stankiewicz, Executive Secretary, Minamata Convention on Mercury, expressed support for an ambitious, visionary framework. She said solutions to the triple planetary crisis of climate change, pollution, and biodiversity loss can be designed to be mutually supportive, and thus more effective. She underscored the upcoming fifth meeting of the Conference of the Parties to the Minamata Convention on Mercury (COP-5) as an opportunity for early implementation of the new chemicals framework.

Shri Bhupender Yadav, Minister of Labour and Employment, Environment, Forest and Climate Change, India, outlined actions undertaken by his country to sustainably manage chemicals and waste. He described how, in line with the Minamata Convention and the Montreal Protocol on Substances that Deplete the Ozone Layer, the use and trade in hazardous substances like mercury is strictly regulated. He also underlined domestic regulation to ensure the environmentally-sound use and recycling of lead and the use of an extended producer responsibility framework as a management tool. He said India is also working with stakeholders to develop an omnibus chemicals regulation.

Panel Discussion: Sherika Whitelocke-Ballingsingh, informal women and gender group at SAICM, and co-facilitator, Women’s Major Group, UNEP, called for gender-disaggregated data to enable gender-responsive health responses. She underscored the role of gender action plans and called on all stakeholders to mainstream gender perspectives to empower women and children, outlining how women are negatively affected by chemicals from a range of day-to-day products used in workplaces and homes.

David Boyd, UN Special Rapporteur on human rights and the environment, said human rights should be placed at the heart of the new global chemicals framework, stating this is the best chance of protecting children from harmful chemicals. He stated children have the right to a healthy environment but lamented



Karl Lauterbach, Federal Minister of Health, Germany

that every country across the globe violates this right. He said this is why there is unprecedented youth action, calling on those present to listen to their voices, give them seats at the table, and act on their ideas and insights.

Wertli said the issues around lead poisoning are clear and called for more action. Boyd highlighted that the scientific evidence shows the cost of the impacts on health from chemicals is far greater than addressing the the issue, saying polluters must pay. However, he said this requires strong evidence from governments. Whitelocke-Ballingsingh called for training for women and children to empower them.

In closing reflections, Karl Lauterbach, Federal Minister of Health, Germany, said a healthy environment is a prerequisite for human health and the German government is stepping up its efforts. He stressed that environmental protection is also important for equity and justice, saying that currently, those with relatively lower wages are likely to be more negatively affected by polluted environments. In the audience poll regarding the most important factors to enable effective collaboration across sectors, participants cited joint strategy and planning as key. Hemmati noted this is about jointly developing strategies and co-creating solutions, rather than telling each other what to do.

Wrapping up, Moderator Payet recalled the “shocking statistics” about the high number of deaths from chemicals use, lamented the continued use of lead despite the science, and expressed hope that the Minamata Convention would result in the eventual elimination of mercury. He asked if a convention on lead is required, or if, as suggested by the various stakeholders that spoke during the dialogue, lead elimination can be achieved without a convention. He also highlighted the issues of environmental justice, and rights to health, sound environment, and good food as important areas of work that must be taken up in a strong science-policy framework.

Day Two: Opening

Opening the second day of the Forum on Tuesday, 5 September, Huang Runqiu, Minister of Ecology and Environment, China, described national steps taken to better manage chemicals throughout their lifecycle, such as technical standards, legal safeguards, and strong legislation. He noted a



David Boyd, UN Special Rapporteur on human rights and the environment



Huang Runqiu, Minister of Ecology and Environment, China

prioritization list for hazardous chemicals and compliance with the different chemicals conventions, such as the Stockholm Convention on Persistent Organic Pollutants. He called for close cooperation and collaboration amongst different stakeholders, and suggested strengthening: political will; pragmatic action; international assistance and cooperation; and green innovation.

High-level Dialogue on Labor and Occupational Health

Moderator Payet introduced the session on Tuesday, noting it explores strengthening the role of occupational health and safety in all sectors that use chemicals, including through education, social innovation, protective systems, due diligence approaches and extended producer responsibility mechanisms. He invited participants to examine how trade can help foster a circular economy by supporting sustainable products and safer practices in chemicals and waste management. The Dialogue addressed how a future SAICM framework can promote cooperation to maximize results and support.

In his keynote, Gilbert F. Hounqbo, Director-General, International Labour Organization (ILO), stressed that each year more than one million workers lose their lives because of exposure to toxic substances, and many others get ill. He said the impact of this widespread use of hazardous chemicals goes beyond the workplace, affecting the public and the environment, as well as social justice. He stressed that everyone deserves equal protection and access to a safe and healthy working environment, yet certain groups are more vulnerable. He noted the ILO advocates for fair labor practices.

In the lead up to ICCM5, Hounqbo called for improved chemicals management frameworks in the workplace and a transition to a greener economy and a pollution-free planet. He drew attention to ILO standards including on occupational safety and the prevention of industrial accidents. He urged stakeholders to join forces for a future where hazardous chemicals no longer threaten workers and where environmental sustainability does not come at the cost of social justice.

Panel discussion: Panelists Aik Hoe Lim, Director of the Trade and Environment Division, World Trade Organisation (WTO), and Danielle Morley, CEO, Bonsucro, focused on



Aik Hoe Lim, Director, Trade and Environment Division, WTO

ensuring international trade contributes to the sound management of chemicals, and on the standards used in the sugarcane value chain in support of chemicals and waste management.

Lim explained the WTO's work on sustainability and a circular economy, discussing how to use trade policies to promote environmental goods and services, and their role in reducing unsustainable goods. He noted that trade is a driver for more sustainable production and consumption patterns. He drew attention to issues of capacity, such as in formulating policies and enforcing standards, and the ability to check what is safe and what is not from a chemicals point of view.

On a circular economy, Lim underscored gaps in tracing inputs and products, and in transparency. On the intersections of trade and environment and occupational health, he noted that trading systems are about raising living standards whilst also protecting the environment, and about better protecting workers.

Morley provided an overview of the sugarcane industry and the role of Bonsucro, the global platform for sustainable sugarcane. She explained that sugarcane produces about 80% of global sugar and involves extensive chemical use. She described collaboration, collective action, and stakeholder dialogues in problem solving, noting Bonsucro aims to accelerate the sustainable production and use of sugarcane. She explained the certification system and how it pertains to the health and safety of workers, soil health, and pest and chemicals management. She noted that bio-based alternatives are needed in the agricultural sector and steps, such as rest, water, and shade, benefit workers, while the Internet of Things helps pull together data to reduce chemical use to a minimum.

High-level Statements: Moez Doraid, Deputy Executive Director for UN Coordination, Partnerships, Resources and Sustainability, a.i., UN Women, highlighted the intersection between gender equality and occupational health and safety, saying that to improve both, women's empowerment and the protection and promotion of their rights is key. He urged collectively advocating for gender-disaggregated data for appropriate and responsive planning.

Alexander Bercht, Board Member and Head of Politics and Society Division, IG Bergbau, Chemie, Energie (IGBCE), a



Eelco van der Enden, CEO, Global Reporting Initiative

trade union in Germany, underscored the unsustainability of poor occupational health and safety. Noting relevant national and yet-to-be-adopted international legislation, he called for international standards on the safe handling of chemicals and wastes to be strengthened and aligned. He said social dialogue is crucial and instruments must be created for the sustainable management of chemicals at the local level, urging shifting to a circular economy.

Eelco van der Enden, CEO, Global Reporting Initiative, underscored the importance of actionable data, which allows decision making based on facts. He said that with the relevant data and information, investors can see if the longer-term risks, such as environmental risks, are being taken care of by the reporting entity. Environmental risks are key, he said, as these “always hit your bottom line.”

John Thompson, Deputy Assistant Secretary for Environment, Bureau of Oceans and International Environmental and Scientific Affairs, US, stated that the largest risks from chemical exposure are often in the workplace and the new SAICM instrument should protect both workers as well as those living near the source. He commended the widespread uptake of chemicals management as a core responsibility.

An interactive poll questioned participants on what they thought could be done to guarantee occupational health and safety and decent work along value chains for all stakeholders in the chemicals and waste sectors, including workers in the informal and formal sectors. Many viewed government action along value chains as the most important, with “ensuring transparency along the value chain” also viewed as key.

Lilian Tschan, State Secretary, Federal Ministry of Labour and Social Affairs, Germany, said the session highlighted the shared objective of ensuring high standards for protecting workers’ health. She outlined chemicals of concern, including asbestos. She further noted that some chemicals are key to decarbonization, as they are needed for metal processing in the industry. This, she said, means an increasing number of workers are being exposed to dangerous chemicals and wastes at work. Decarbonization and occupational safety and health should therefore be addressed concomitantly.

In closing, Moderator Payet summarized the discussions, noting innovative solutions and standards to address occupational safety and health, and called for promoting awareness of these.

He said due diligence in the supply chain is key and encouraged that as part of preparations for ICCM5, parties look to see how to move forward to create a safe environment for all workers in developed and developing countries alike.

High-level Dialogue on Innovation for Just Transition

Opening this dialogue on Tuesday, Moderator Payet asked panelists to consider how knowledge and technology transfer are being supported in cleaner production and how lessons learned can be applied to the future framework to be adopted at ICCM5.

Panel Discussion: Smail Al Hilali, United Nations Industrial Development Organization (UNIDO), noted that while some hazardous chemicals can be banned, others are essential and require the development of alternatives before they can be phased out. He stressed the roles of innovation and green chemistry, and underscored the need for the private sector to fund research and development to create suitable alternatives. He called for ICCM5 to adopt a holistic and innovative framework that incorporates a financial mechanism to support developing countries.

Shannon Lisa, Chemicals and Waste Youth Platform, lamented that chemicals governance has not achieved a similar level of political attention and coverage as other issues, such as climate change and biodiversity loss. She said efforts should focus on “showing the human face of the issue” by identifying those most impacted by chemical pollution.

Regarding the growing youth interest in Science, Technology, Engineering, and Mathematics (STEM), especially in sustainable STEM approaches, Lisa stressed that youth are not just a vulnerable group but are in fact already driving action towards sustainable chemistry through projects in their communities and classrooms.

Javier García Martínez, President, International Union of Pure and Applied Chemistry, discussed his organization’s Top Ten Emerging Technologies in Chemistry project. He highlighted: sodium batteries that do not require lithium; textile displays that allow all kinds of textiles to be used as screens; and solar fuels that are not based on fossil fuels but are created from carbon dioxide, water, and sunlight. Regarding the facilitation of technology transfer between countries, he identified efforts on chemistry entrepreneurship, which he said aim to provide the



Javier García Martínez, President, International Union of Pure and Applied Chemistry

skills and passion for a new generation of chemists to create their own businesses.

High-level Statements: Albina Ruiz, Minister of Environment, Peru, stressed that a just transition towards a pollution-free planet requires a transformation in the procedures and use of chemicals throughout their lifecycle and innovation, such as the application of green chemistry. She said Peru is promoting a just transition through pilot projects that reduce or substitute both the use of mercury in artisanal and small-scale gold mining and persistent organic pollutants (POPs) in other industrial activities.

Kaja Sukova, Minister of Environment and Physical Planning, North Macedonia, noted that a just transition to a pollution-free planet is a challenge for all countries but also an opportunity to contribute to achieving the 2030 Agenda. She underlined that the private sector and consumers in her country are regarded as partners in the shift to sustainability and recognized the importance of policies and international support in achieving environmental standards.

André Weidenhaupt, Director General, Ministry of Environment, Climate and Sustainable Development, Luxembourg, stressed that the triple environmental crisis is causing the premature death of millions of people around the world, while another existential threat is unsustainable production and consumption patterns. He called for implementation of a circular economy and reduction of our ecological footprint by embracing a green transition and investing in long-term actions. He outlined national initiatives including packages to support decarbonization.

Rebecca Pow, Minister for Environmental Quality and Resilience, UK, called for stronger communication efforts on pollution through chemicals to match those on climate change and on biodiversity loss. She drew attention to the importance of sending a robust and united call for action on chemicals throughout their lifecycle to attain a just transition and said financial innovation is necessary to generate finances for change. She noted a role for the private sector, including in capacity building and through policy action.



Rebecca Pow, Minister for Environmental Quality and Resilience, UK

Martin Kayser, BASF/Global Battery Alliance, noted the Alliance is an international partnership of companies to ensure battery production supports green energy and safeguards human and environmental health. He said that innovation is part of their industry and that industry is a solution provider to achieve the SDGs. He drew attention to the Battery Passport – a framework to increase transparency across the battery value chain by establishing a digital twin of a physical battery – as a milestone to improve transparency in the battery value chain.

Klaus Kümmerer, Director, ISC3 Research and Education Hub, Leuphana University Lüneburg, Germany, called for a focus on new concepts and approaches to move us forward. He noted, for instance, that chemical assessments are done via risk assessments with measures of exposure, yet many compounds require hazard assessments. He also called for alternative business models and underlined the need to consider complete material and resource flows when implementing solutions.

Noting that teenagers in Germany have excessively high levels of the chemical per- and polyfluoroalkyl substances (PFAS) in their blood, Anne-Sofie Bäcker, Executive Director Chemsec, said SAICM needs clear, measurable, short-term goals, with a road map. She called for regulative incentives, bans, and regulatory agreements to drive innovation in the right direction, and for more transparency.

Sara Brosche, Science Advisor, IPEN, called for: existing agreements to be applied and enforced; funding to be made available including from those responsible for the pollution crisis; and effective new measures to be adopted such as on plastics.

Nikhil Seth, Executive Director, United Nations Institute for Training and Research, noted an unlevel playing field when it comes to pollution and developing countries, as well as transition to innovative and sustainable approaches as essential. He called for education and training, knowledge sharing, and funding, amongst others.

In her closing reflections on the future framework instrument, Sheila Aggarwal-Khan, UNEP, stressed the importance of chemicals to many sectors and the pollution challenges they cause. She said discussions had tackled the need to identify and address chemicals of concern across their lifecycle and



Sara Brosche, Science Advisor, IPEN



Anita Breyer, ICCM5 President

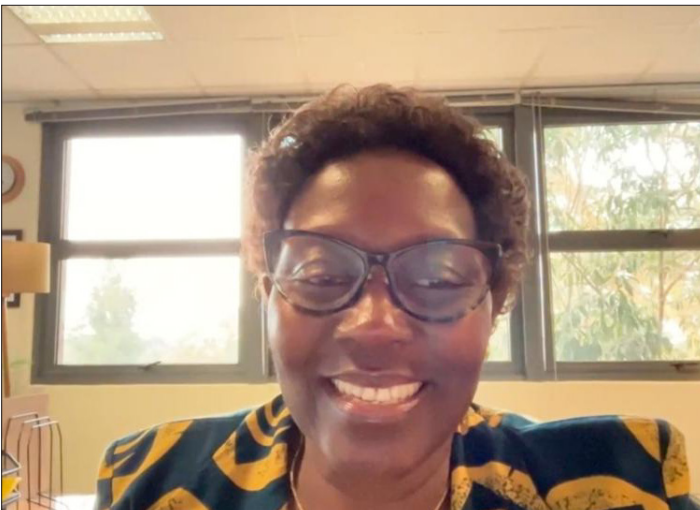
find substitutes or use closed systems when no alternatives are available. She stressed that governments need to provide policies and incentives to influence the private sector to find safe alternatives, pointing out the growth in green chemicals and attendant impact on labeling, jobs, and the education sector.

In a poll regarding what innovations are the most needed to achieve the necessary progress to realize sound chemicals and waste management globally, most participants favored technological innovations, followed by financial innovations.

Closing

In his closing remarks, Moderator Payet underscored the need to promote cleaner technologies and green chemistry and to engage with the private sector, academia, and youth. He recalled that circularity is not the solution to everything and that regulation must support innovation. He further emphasized that innovative technologies need to be transferred to developing countries and that innovation requires STEM courses to be fostered in school and university curricula.

Anita Breyer, President, ICCM5, said the multiplicity and diversity of voices over the course of the two days were clear on the prioritization of sound chemicals and waste management



Elizabeth Mrema, Deputy Executive Director, UNEP



Christiane Rohleder, State Secretary, Federal Ministry for the Environment, Germany

across a diverse range of sectors and stakeholders. She said preparations for ICCM5 are in top gear, noting that the high-level segment aims to adopt both the new chemical framework, as well as a high-level declaration on the priority for a strengthened chemicals and waste management agenda. She thanked all participants for their engagement in the Forum saying it highlighted the urgency of the task, and that all sectors must join efforts for a pollution-free world.

Elizabeth Mrema, Deputy Executive Director, UNEP, on behalf of Inger Andersen, Executive Director, UNEP, said chemicals bring great benefit to humanity but the flipside is that hazardous and long-lived chemicals are polluting our environment. She lamented that the waste industry is expected to continue to grow at the expense of many who are exposed to chemical pollution, stating that the cost of current practices far outweighs the benefits. She urged retaining the benefits of chemical use but with minimized pollution. She said changes will require ambitious and widespread action by all sectors.

Furthermore, Mrema noted governments' critical role in creating the policy environment and incentivizing businesses to make these changes. She lauded the UNEA-5 decision to establish a science-policy panel to contribute further to the sound management of chemicals and waste and to prevent pollution, saying this will inform the work of the new chemicals instrument.

On the new chemicals instrument, she said it should leverage funding and innovation to create change so we are able to feed and clothe ourselves and live without fear of being affected by harmful chemical exposures. She closed, underscoring the role of green chemistry in addressing the triple planetary crisis of pollution, climate change, and biodiversity loss

In the final poll of the Forum, on what will be the most important feature of the future framework to be adopted at ICCM5, participants generally favored concrete action through fostering intersectoral collaboration and partnerships.

Moderator Payet, summarizing the four sessions, urged moving forward with ambition and commitment, and stressed the importance of partnerships. He said this Forum clearly showed

that having all stakeholders at the table is key to achieving an ambitious outcome at ICCM5.

Christiane Rohleder, State Secretary, Federal Ministry for the Environment, Germany, thanked all participants for their engagement and perspectives to inform the discussions. She underscored that sound chemicals and waste management is a collective undertaking and that “only if we work together can we reduce the chemical footprint of our society.” She urged drawing on the spirit of unity and action at ICCM5 to reach an ambitious agreement, and assured that it is possible to achieve results, which are supported and implemented by a broad alliance of stakeholders. She lamented that chemicals still cause too much damage to our environment, with related effects on the economy. She said the challenge, however, is to make use of existing solutions and take them to the next level. Closing the session, she invited everyone to ICCM5 to continue their work on sustainable chemicals and waste management.

Moderator Payet closed the Forum at 3.50 pm CET.

Upcoming Meetings

5th International Conference on Chemicals Management and Resumed 4th Meeting of the Intersessional Process for Considering SAICM and the Sound Management of Chemicals and Waste Beyond 2020:

The main task of the Conference will be to adopt a “beyond 2020” chemicals and waste global policy framework instrument to address the challenges of our chemicals-saturated world. **dates:** 23-29 September 2023 **location:** Bonn, Germany **www:** staging.saicm.org/events/iccm5

Nineteenth Meeting of the Chemical Review Committee (CRC-19): The 19th meeting of the Chemical Review Committee (CRC-19) of the Rotterdam Convention will be held back-to-back with the 19th meeting of the Persistent Organic Pollutants Review Committee (POPRC-19) of the Stockholm Convention. **dates:** 3-6 October 2023 **location:** Rome, Italy **www:** pic.int/Home/tabid/855/language/en-US/Default.aspx

Nineteenth Meeting of the Persistent Organic Pollutants Review Committee (POPRC-19): POPRC-19 will be held back-



Family photo of the Second Berlin Forum team

to-back with CRC-19. **dates** 9-13 October 2023 **location:** Rome, Italy **www:** chm.pops.int/Home/tabid/2121/Default.aspx

35th Meeting of the Parties to the Montreal Protocol (MOP 35): The 35th Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer (MOP 35) is scheduled to convene from 23-27 October 2023. MOP 35 will discuss issues related to the implementation of the Montreal Protocol. **dates:** 23-27 October 2023 **location:** Nairobi, Kenya **www:** ozone.unep.org/meetings/thirty-fifth-meeting-parties

Minamata Convention COP-5: The fifth meeting of the Conference of the Parties (COP-5) to the Minamata Convention on Mercury will take place in October – November 2023. **dates:** 30 October – 3 November 2023 **location:** Geneva, Switzerland **www:** mercuryconvention.org/en/about/conference-parties

Plastic Pollution INC-3: The third meeting of the Intergovernmental Negotiating Committee (INC) to develop an international legally binding instrument on plastic pollution, including in the marine environment (Plastic Pollution INC-3), will take place at the end of 2023 at UNEP Headquarters. **dates:** 13-19 November 2023 **location:** Nairobi, Kenya **www:** unep.org/inc-plastic-pollution

OEWG 2: Science-Policy Panel to Contribute Further to the Sound Management of Chemicals and Waste and to Prevent Pollution: The second session of the Open Ended Working Group (OEWG) on a Science-Policy Panel to Contribute Further to the Sound Management of Chemicals and Waste and to Prevent Pollution (OEWG 2) will continue the group’s work to prepare proposals for the science-policy panel. **dates:** 11-15 December 2023 **location:** Dead Sea, Jordan **www:** unep.org/events/conference/oewg-2-science-policy-panel-contribute-further-sound-management-chemicals-and

For additional meetings, see sdg.iisd.org/

Glossary

BRS Conventions	Basel, Rotterdam and Stockholm Conventions
HHPs	Highly Hazardous Pesticides
ICCM	International Conference on Chemicals Management
IPEN	International Pollutants Elimination Network
SAICM	Strategic Approach to International Chemicals Management
SDGs	Sustainable Development Goals
UNDP	UN Development Programme
UNEP	UN Environment Programme