



BASEL CONVENTION



ROTTERDAM CONVENTION



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MINAMATA  
CONVENTION  
ON MERCURY



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# PRESS RELEASE

## Climate change, hazardous chemicals and wastes interact, threatening biodiversity

**A new report produced by the UN Secretariats of the Basel, Minamata, Rotterdam, & Stockholm conventions maps the interlinkages between hazardous chemicals, wastes and climate change, which combine to impact on efforts to conserve and restore nature**

Geneva, Switzerland

4 June 2021

**The report is launched at the occasion of United Nations World Environment Day on 5<sup>th</sup> June 2021, and ahead of key upcoming international meetings later this year on biodiversity, on climate change and on hazardous chemicals and wastes,<sup>1</sup> identifying options for better coordinating actions in addressing these issues.**

Climate change and the management of hazardous chemicals and wastes are key global environmental challenges for achieving the Sustainable Development Goals, as set out in the 2030 Agenda for Sustainable Development. The new report, entitled "[Chemicals, Wastes and Climate Change: Interlinkages and Potential for Coordinated Action](#)", adds to previous information provided by the Intergovernmental Panel on Climate Change (IPCC), in pointing out that:

**Climate change can lead to increased releases of hazardous chemicals into the environment.** One example is that the melting of polar and alpine glaciers, permafrost and ocean ice induced by climate change results in

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<sup>1</sup> Including the 15<sup>th</sup> meeting of the Conference of Parties to the Convention on Biological Diversity, 11 to 24 October 2021; the 26<sup>th</sup> meeting of the Conference of the Parties to the UN Framework Convention on Climate Change, 1 to 12 November 2021; the meetings of the Conferences of Parties to the Basel, Rotterdam, and Stockholm conventions (online segment) 26 to 30 July 2021; and the 4<sup>th</sup> meeting of the Conference of Parties to the Minamata Convention, 1 to 5 November 2021.

releases of trapped hazardous chemicals, including persistent organic pollutants (POPs) and mercury. Projections suggest that under a high greenhouse gas (GHG) emissions scenario, mercury emissions from permafrost could reach a peak of  $1.9 \pm 1.1$  Gg Hg per year in 2200, the equivalent of current global atmospheric emissions. Furthermore, the melting of sea ice and permafrost, sometimes compounded by increased precipitation, can lead to local contamination due to physical disruption and damage of pipelines and storage facilities, leading to oil and chemical spills.

**Climate change can lead to increasing use of chemical fertilizer and pesticides**, to combat higher incidences of pest and disease outbreaks, as increased distribution, growth and reproduction of pests is observed at higher temperatures and in wetter conditions, and because the efficacy of pesticides decreases with increased temperature. Pesticide usage as a result of both increased temperature and precipitation could rise by 1.1 to 2.5% by 2040 and by 2.4 to 9.1% by 2070 in China alone, despite current efforts to reduce pesticide usage. Robust strategies are thus required for pest and disease mitigation to avoid excessive growth in pesticide use.

**Increased mobilization and volatilization of chemicals from materials storage and stockpiles will occur as temperatures rise.** These effects will be most relevant in the case of chemicals with relatively low direct emissions during manufacturing and chemicals which are not readily incorporated into materials. For example, it is estimated that 240,000 tonnes of obsolete pesticides are stockpiled in Eastern Europe alone, and that between 4 and 7 million tonnes of HCH isomers, generated as a by-product of the manufacture of the POP Lindane, have been stockpiled globally since the 1950s. Abandoned stockpiles of compounds containing heavy metals, which may include mercury, are also found in parts of the world.

The impacts of climate change are already being observed<sup>2</sup>, including increased temperature, changes to precipitation, shifts in ocean currents, melting of ice, rising sea levels and increased severity and frequency of sea level events, thawing permafrost, retreat of glaciers and ice sheets, increase in weather conditions conducive to fires and increased frequency and intensity of extreme weather events. These impacts are linked to increased releases of hazardous chemicals into the environment, long range transport and environmental fate, as well as human and environmental exposure, leading to higher health risks of both human populations and the environment.

On the other hand, the chemicals and waste management sectors are significant contributors to global GHG emissions, and have strong links to the fossil fuels sector. Releases of GHGs and hazardous chemicals occur at all stages in the life cycles of chemicals, including production of input materials, primary and secondary production processes, use and disposal. Releases of hazardous chemicals and GHGs from the use phase of products that can occur include the application of pesticides, and release of high value chemicals in refrigeration and air-conditioning, fire suppression and explosion protection, foam blowing, and other applications.

This new report maps the interlinkages between chemicals and wastes and climate change, providing an essential baseline for future work and collaboration between States and organizations, especially towards adopting a more holistic approach in addressing those global environmental issues. Driven by the need to unite forces in the face of shared environmental challenges, the report accompanies another recently published by the Secretariats on the linkages between [chemicals, waste and biodiversity loss](#).

According to Rolph Payet, Executive Secretary of the Basel, Rotterdam and Stockholm (BRS) Conventions, “the twin threats of climate change and biodiversity loss through increasing pollution from chemicals and wastes show no signs of slowing. This report demonstrates how those twin threats are in fact inter-related. The sound management of chemicals and waste, including plastic waste, when implemented in coordination with climate change measures, will simultaneously slow the increase in greenhouse gases and lead to improvements in environmental quality, including through the restoration of nature and ecosystems. This in turn will positively

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<sup>2</sup> See for example, UN Environment Programme, 2021, “Facts about the Climate Emergency” at <https://www.unep.org/explore-topics/climate-change/facts-about-climate-emergency>

impact livelihoods and the attainment of a dignified life for all, a greener, more inclusive economy built upon circularity and life-cycle resource use. We must therefore continue to work as a global community to make progress in addressing the root causes of these threats for a clean and healthy planet. We will then achieve, in short, a healthier world population, and more resilient natural systems now and into the future”.

Monika Stankiewicz, Executive Secretary of the Minamata Convention on Mercury, underlines that “climate change is irreversible but not unstoppable. We are witnesses of a vicious circle where climate change increases the releases of hazardous chemicals while being at the same time exacerbated by them. To break this cycle and better protect the environment and people’s health, it is important to mobilize further resources, develop and implement cost-effective strategies, enhance international cooperation and, all in all, keep supporting the current multilateral environmental agreements. In the case of the Minamata Convention, and with worrying signs like the increase of mercury emissions in permafrost regions, climate action is essential to make mercury history. When problems are connected, so are the solutions”.

The joint report reviews existing scientific knowledge on climate change and hazardous chemicals and wastes management to improve decision-making for simultaneously addressing these two critical elements of the broader sustainability challenge. Together with the [biodiversity report](#), the report will be considered at the next meetings of the [Conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions](#) (July 2021) and the [Conference of the Parties to the Minamata Convention](#) (November 2021).

**Read it here:** [Chemicals, Wastes and Climate Change: Interlinkages and Potential for Coordinated Action](#)

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**NOTES for Editors:**

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989), the Rotterdam Convention on the Prior Informed Consent Procedure (PIC) for Certain Hazardous Chemicals and Pesticides in International Trade (1998), the Stockholm on Persistent Organic Pollutants (2001), and Minamata (2013) Conventions were adopted to manage and reduce the harmful impacts of certain hazardous chemicals and wastes on the environment and on human health.

As independent and legally binding instruments, the four Conventions provide for specific means to achieve their respective objectives, including by setting obligations for their respective Parties to ensure sound management of the chemicals and wastes covered. This results in controls on or reduced harm to human health and the environment stemming from the production, use, trade and disposal of the covered chemicals and wastes. Since the Conventions contribute to a greater whole, their full implementation makes a significant, and vital contribution to the protection of the environment, biodiversity, and the health and well-being of people.