JOIN NOW THE NEW **COMMUNITY OF PRACTICE** ON

CHEMICALS AND THE **SUSTAINABLE DEVELOPMENT GOALS**

Organized by the SAICM Secretariat and the University of Cape Town

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Discussion date: 20 April 2022

Discussion 1 Digest

Topic of Discussion: The Link between Climate Change and Chemical Accidents

The impact of natural hazards on hazardous installations has been an increasing cause for concern. Natural hazards (such as earthquakes, floods, or storms) can initiate events, which may challenge the safety and operation of hazardous installations and trigger a chemical accident. These accidents are referred to as Natural hazard triggered technological accidents (Natech). Natech risk management needs to consider the possible impact of climate change on the occurrence and severity of Natech events. Data and projections show that the frequency and intensity of natural hazards may increase in the decades to come; and some of them may occur at locations where they have never been observed before. Coupled with a growing human expansion, integration of climate change risks and uncertainties into Natech risk management is essential.

Even as technology evolves and the structure of work continues to shift dramatically, major industrial accidents continue to pose a major threat to the safety and health of workers around the world. Potentially hazardous substances are ubiquitous in many industries and are of strategic importance to many national economies. However, in the absence of sound workplace chemicals' management, appropriate risk assessment and other preventative actions and policies, these substances may pose a serious and imminent risk for the occurrence of major industrial accidents (MIAs). The world of work and the natural environment are intrinsically linked. Climate change and associated environmental degradation pose increasing risks to workers' health and safety, particularly when it comes to MIAs. Expanded workplace risk assessments taking into consideration the risk of climate change and its associated impacts are increasingly needed for MIA prevention. The role of tripartism and social dialogue in the face of a rapidly changing planet and world of work are also essential for coordinated preventative action.

The Basel Convention regulates the transboundary movements of hazardous wastes and other wastes and obliges its Parties to ensure that such wastes are managed and disposed of in an environmentally sound manner. The Convention covers toxic, poisonous, explosive, corrosive, flammable, ecotoxic and infectious wastes. However, for many years the illegal traffic of waste and hazardous wastes have been impacting the environment and the health.

ABOUT THE PRESENTERS

Marie-Ange Baucher has been working at the Organisation for Economic Cooperation and Development (OECD) for 14 years. She works in the Environment, Health, and Safety division of the Environment Directorate.

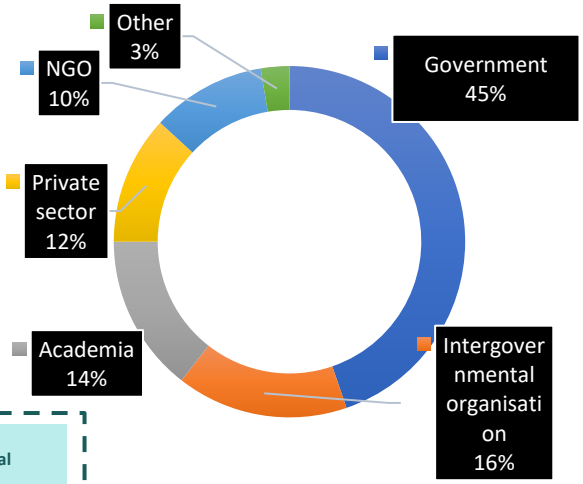
Dr. Halshka Graczyk is a Technical Specialist on Occupational Safety and Health (OSH) at the International Labour Organization (ILO).

Semia Gharbi is teacher-consultant in environmental science and management, president of the Association of Environmental Education for Future Generations, a member of the Tunisie Verte Network, a Regional Hub Coordinator for IPEN (International Pollutants Elimination Network) in the MENA / North Africa region, a member of PAN Africa and mentioned as UNEP expert's profiles on the website of UNEP and a member of WECF and WMG. Furthermore, she will be panellist at the BRS event on the 8th of June 2022.

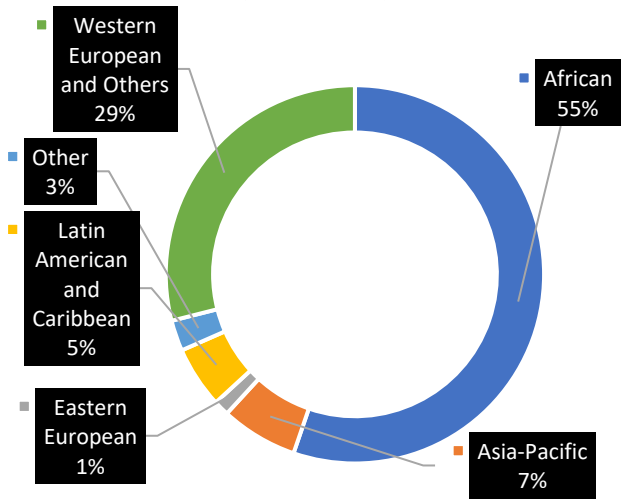
DISCUSSION 1 ATTENDANCE BREAKDOWN

TOTAL ATTENDEES FOR DISCUSSION 1: 76
Female: 30
Male: 43
Other: 3

Sector Representation



Regional Representation



Key:
IGO – Intergovernmental organisation
NGO – Non-governmental organisation

Chemicals and SDGs Community of Practice Discussion 1 Summary and looking ahead

1. Participants were asked whether their countries had **sufficient awareness of Natech risks related to climate change**. The **majority (88%) of the participants concluded that there is insufficient awareness** thereof in their countries. They identified the **absence of recorded cases** of past climate-related incidents, **limited information available** on Natech accidents and the **lack of relevant sectors working together** as a reason for the insufficient awareness. This was reiterated by the participants, as **more than half (52%) indicated that they were not sure of Natech accidents** in their country. Looking ahead, it is very **important to continue to raise awareness on the risk of Natech and on how these risks can be assessed and managed**. Efforts should be made to integrate Natech's risk management into **measures for the prevention, preparedness, and response** to chemical accidents as well as into measures for disaster risk management.

2. Participants were asked about **the role of the world of work in major industrial accident (MIA) prevention and enhancing occupational safety and health (OSH)** in a time with growing risks posed by climate change. Important roles identified by participants were **intergovernmental involvement, implementation of the ILO International Labour Standards and Codes of Practice, policy documents, awareness training for regulatory authorities and policymakers, risk communication plans for MIA in local OSH policy, OSH legislation provisions for climate change and the trade of chemicals**. Participants from various regions (Africa, Europe, South-East Asia, and the Middle East) were familiar with OSH legal frameworks that protect workers from OSH risks due to MIAs or other hazardous exposures. However, 38% of the participants were either not sure or not aware of whether climate change is seen as a workplace-related threat in their countries. Looking forward, it is **important to enhance awareness around the role of the world of work in mitigating the impacts** of climate change for workers, especially those that may be the most vulnerable, such as those working outdoors in agriculture and construction. **Social dialogue between world of work stakeholders** is fundamental to ensure integrated approaches to OSH actions as they relate to increasing climate change risks.

3. Participants discussed how **climate change increases the problem of hazardous waste movement**. Issues raised were the movement of hazardous waste **to another part of the environment** (e.g., leaching of chemicals affecting underground water), the **development of green technology causing unwanted electronic products** to become e-waste that are shipped to LMICs and the absorption of chemicals in human bodies. Looking ahead, **advocacy for delegates and decision makers** on the enforcement of national regulation, corruption and non-compliance/implementation with international conventions is necessary to increase their knowledge on the illegal traffic of waste and improve their country's infrastructure for dealing with it.

For a more detailed summary of the discussion, see the Annex below

ANNEX

DETAILED SUMMARY OF DISCUSSION 1

THE DISCUSSION WAS STRUCTURED AROUND THREE QUESTIONS AND THE KEY DISCUSSION INPUTS FROM PARTICIPANTS ARE PRESENTED UNDER EACH QUESTION:

Q1. Do you think there is sufficient awareness of Natech risks in your country in relation to climate change? What are the main challenges you can see for establishing prevention measures for Natech?

REGION	AWARENESS (YES/NO) CHALLENGES OF NATECH RISKS
AFRICA	
BOTSWANA	**No** ➢ Hazards have not been mapped in the country because it is difficult to develop risk measures associated with the hazards.
ETHIOPIA	**No** ➢ The lack of awareness of Natech in the country results into it not being addressed and incorporated in the government plan. ➢ As low to middle-income countries (LMICs), natural hazards are addressed separately from anthropogenic activities. The early warning system only focuses on natural hazards.
ESWATINI	**No** ➢ A disaster management department provides immediate response to natural disasters, however, there is no preparedness to incorporate Natech accidents.
KENYA	**No** ➢ There is not sufficient awareness of Natech risks.
MALAWI	**No** ➢ There is not enough awareness of the risks of Natech in concerning climate change due to the lack of recorded cases of past climate- related incidents. For example, the only recorded incident of a chemical accident happened after a fire breakout. ➢ The lack of chemical production facilities, large chemical warehouses and few incidences of natural disasters are some of the reasons why a little effort has been made in LMICs to address Natech
MOZAMBIQUE	**No** ➢ The main challenge is the definition of the criteria for establishing an appropriate security perimeter between the installations and the population living or working near an industry.
SOUTH AFRICA	**No** ➢ There is insufficient awareness amongst South African policymakers and academics. **Yes** ➢ In South Africa, the Disaster Management Act (DMA) No. 57 of 2002 addresses national disaster management. The National Disaster Management Centre (NDMC) promotes an integrated and coordinated system of disaster management, with special emphasis on prevention and mitigation, by national, provincial, and municipal organs of state, statutory functionaries, and other role-players involved in disaster management and communities. Advisories such as the South African Weather Service (SAWS) are useful for early warning systems; DAFF's Climate Change and Disaster Management and ARC: Institute for Soil, Climate and Water. ➢ Petroleum organizations need to follow the Petroleum Pipeline Act and for this, we need to comply and have emergency plans for system failures, accidents, and other emergencies (including natural disasters and industrial accidents).
SOMALIA	**No** ➢ There is now awareness of Natech.
TANZANIA	**No** ➢ Awareness creation. ➢ Enforcement and expertise.

ZAMBIA	**No**	➢ Limited information is available on Natech risks concerning climate change. This is a relatively new area, and little attention has been given to linking climate change to this type of risk. ➢ Recently, the water and sewerage infrastructure projects have tried to ensure installations are climate resilient. ➢ Main challenges are related to the inadequacy of data and the interconnectivity of information sources among institutions. To prepare for climate risks, data must be robust and collected over a considerable length of time and this is where the main challenge lies. ➢ There is insufficient awareness related to Natech. Low stakeholder involvement in risk communication tools is a challenge. ➢ Training in most Engineering disciplines does not include Climate Change risk and designing infrastructure. ➢ Zambia has a robust Disaster Preparedness and Response Policy that focuses on food security, displacements due to floods and other Public Health emergencies. The technological side still needs to be developed. ➢ The policy on disaster preparedness must be enhanced to incorporate Natech risks and covered under the Zambia Environmental Management Agency.
ZIMBABWE	**No**	➢ There is a lack of adequate personnel specific to the risk task. ➢ There is civil protection unit (CPU) which is normally reactive when a disaster situation has already occurred. ➢ In Zimbabwe there is little awareness of Natech risks. However, general awareness of natural disasters associated with climate change has increased over the years following the recurrence of cyclone incidences. The main challenges in terms of response preparedness have been largely poor coordination and limited resources.
LATIN AMERICA AND THE CARIBBEAN		
JAMAICA	**No**	➢ Increased flooding in the country poses risks to chemical pollution in manufacturing plants and storage. ➢ Hurricanes are seasonal in Jamaica and often, flooding is associated with hurricanes. Therefore, there is a need for a warning system for hurricanes. ➢ Pesticide storage is needed. ➢ As the location of pesticide sellers is known, it can be a starting point for a map. However, for other chemicals, there is no development in Jamaica.
SOUTH-EAST ASIA		
NEPAL	**No**	➢ There is no natech related awareness.
MIDDLE EAST		
IRAN	**Yes**	➢ In recent years, there has been an increase in awareness of related issues because Iran is a vulnerable land to disasters like earthquakes, climate change, flooding, and other petrochemical industries. However, more work is needed to prevent Natech.
NORTH AMERICA		
USA	**Yes**	➢ Ensuring that all industries apply best management practices and risk assessments to protect communities and the environment that may be impacted in the vicinity of their locations is a challenge. Authorities' staff should review and inspect with severe penalties for non-compliance. ➢ For US countries to receive insurance, risks will need to be assessed, audits must be conducted, and the risk mitigation measures must be in place.
EASTERN EUROPE		
UKRAINE	**No**	

- A major environmental risk and risk for people is the destruction of chemical installations and storage facilities caused by war, bombing and poor handling by occupiers etc.

Throughout the discussion, informal polls were conducted to help encourage discussion among the participants. They do not provide any representative data

Poll 1: Are you aware of Natech accidents that happened in your country? (Yes/no/not sure and list country in response) (N=36)

Not sure -52%, countries like:

- Jamaica, South Africa, Senegal, Tanzania, Zambia, Malawi, Nepal

No – 26%, countries like:

- Nepal: Lack of aggregated data on natural disaster related accidents.
- Sierra Leone, Botswana, Madagascar, Tanzania

Yes - 22%, for example:

- South Africa: Experiencing the impact of 5 months' worth of rain in one day and the floods have impacted chemical industries.
- Zambia
- Slovakia
- Peru: There is awareness, but in practice the process is not efficient. An example is the recent oil spill due to high tides (tsunami) after an earthquake a few months ago.
- Germany: Overflowing of water epuration plants by unusually heavy rainfall and subsequent contamination of rivers by untreated water
- France: Draught causes a shortage of cold water in rivers and a lack of cooling water. As a result, it causes overheating of nuclear power plants causing them to be shut down before a meltdown happens.

Poll 2: Is Natech included in your country's measures on the prevention, preparedness, and response to chemical accidents?) (N=21)

Yes – 48%, in countries like:

- Iran: more enforcement is needed.
- Peru: Yes, but there needs to be better enforcement and implementation.
- Some industries perform major risk assessment studies, but it is still limited
- Germany: Normal natural events like strong rains, droughts, and heatwaves are considered, but changing climate leads to much more extreme situations overpassing those safety measures and causing spill overs and other problems.
- Mainly around natural disasters like floods and not really on chemicals.
- Kenya: Provided for among other disasters/accidents
- Ethiopia: There is some work by the National Disaster Management Agency which focuses more on response
- Zambia, included under the Disaster and Management and Mitigation plan
- Mainly for flood management

No – 4%, in:

- Malawi

Not sure - 48%, in countries like:

- Botswana has a comprehensive disaster management plan; however, this is centred.
- Eswatini: there is some work by the National disaster Management Agency which focuses more on response
- Madagascar, Tanzania, Senegal, South Africa
- Jamaica: not sure if it includes the disaster management plan but it would be good for inclusion
- Not sure if it is included in the disaster management programmes that respond to national disasters

Q2. What do you see as the role of the world of work in MIA prevention when it comes to increasing occupational safety and risks posed by climate change?

IRAN

- Involvement of the related global agencies in LMICs is needed. Work is being done in HICs but in LMICs there is a lack of enforcement, and the situation requires help/ cooperation, etc.
- Chemical production, chemical containing products and product usage can give rise to both hazardous chemicals and greenhouse gas emissions.

ESWATINI

- Implementation of the ILO Code of Practice and Natech prevention plans could suffice.

TANZANIA

- When applying for hazardous chemicals' registrations, according to country requirements, you need to have a contingency plan however, it is too general.
- Having a document in place is key, but awareness and implementation of what is inside the documents are vital. Additionally, having in place policy documents, awareness among workers is necessary.
- Raising awareness through training, workshop and platforms about the risks related to hazardous work environments.
- Awareness training for regulatory authorities, and policymakers on accident preparedness and prevention for Natech is necessary.
- Poor monitoring mechanism.
- Heat stress causes chemicals to break down into dangerous metabolites, which facilitates their movement.

GUYANA

- The risk communication plan for MIA should be encompassed in local OHS policy.

SOUTH AFRICA

- Currently, the OHS legislation does not make provisions for climate change nor management of accidents thereof. However, the legislation is currently under review, and it will be ideal to make inputs for this legislation to provide for emergency climate change issues.
- Too many departments are responsible for chemicals and no agency leads on addressing chemicals management at the borders.

JAMAICA

- There are provisions to manage trade in chemicals. For example, a ship could leave cargo in the port and the cargo has insufficient labelling, which indicates was not legally shipped. This is a cheap way to dispose of waste
- Other countries. Illegal trade often gets concealed in other cargo that is not highly regulated.
- Facilitating dialogue and/or negotiation among stakeholders to raise awareness and implementation.

ZAMBIA

- The country has a legal framework for OSH.
- Climate change is considered an emerging risk in Zambia and needs more work to be done to promote awareness so that it is well recognised as such.
- Lack of adequate measures to enforce cross border movement. Many border agencies do not have the means to identify what constitutes hazardous waste, except trained environmental inspectors.
- Hazardous waste is happening due to a lack of enforcement of international treaties. National law enforcement is usually not there, and monitoring is not available.

Poll 3: Are you familiar with OSH legal frameworks in your country that help protect workers from OSH risks due to MIAs or other hazardous exposures? (Yes/no/not sure and list country in response) (N=26)

Yes – 100%:

Africa:

- Botswana: Occupational health and safety in Botswana are regulated by various pieces of legislation. The principal laws are the Factories Act; the Agrochemicals Act; the Mines, Quarries Works & Machinery Act; the Radiation Protection Act and the Workers Compensate.
- Ethiopia: Labour proclamation no 466/2005
- eSwatini: Occupation, Safety and Health Act of 2001.
- Kenya: The occupational safety and health act of 2007 regulates all OSH risks. However, it generally looks at the workplace but does not address MIA as standalone areas. There is a mention of how to deal with spills.
- South Africa: The Occupational Health and Safety Act 85, 1993. Major Hazard Installations Regulations under the OHS Act in South Africa.
- Zambia: has legal frameworks in place

Poll 3 continued:

European Union:

- There is an obligation to perform risk assessments and take prevention and protection measures.

South-East Asia:

- Nepal: Our OSH related legal frameworks are not sufficient to protect workers from all OSH risks due to MIAs.

Other countries included:

- Senegal, Jamaica, Tanzania, Guyana, Iran, Madagascar, Malawi, and Zimbabwe.

Other examples provided by participants:

- Instruction by the ministry of labour, ministry of environment and some national conversions our government ratify.
- Some companies perform life drills on some accident scenarios with government officials.
- Extreme Weather condition caused by Climate Change has a direct impact on workers.
- Priority should be given to due diligence about the possible accident prevention.

Poll 4: Is climate change seen as a workplace related threat in your country / working experience? (Yes/no/not sure and list country in response) (N=27)

Yes -59%, for example in:

Africa:

- Guyana
- Jamaica: Climate change is not seen as a workplace related threat. There is more groundwork that needs to be done in educating civil society on the local impact of climate change.
- Kenya: however, climate change is still a grey area to be termed as a work-related threat.
- Malawi: climate change is seen to influence pesticide use in Agriculture.
- South Africa: especially in our workplaces implementing SDGs (specifically SDG 13)
- Tanzania
- Zambia: It is an emerging risk but not yet fully incorporated in many workplace OSH policies. Flooding, cyclones etc affect a lot of workplaces.
- Zimbabwe: A ticking time bomb meant to wipe out agriculture operations

South-East Asia:

- Peru: especially considering the region's propensity to earthquakes.

Other examples provided by participants:

- The major effect of climate change perceived is that it changes the probability and frequency of the occurrence of extreme events (like "1000-year floods", and that those measures considered before according to the old probabilities insufficient
- People who depend on climate conditions that might shift from one place to another due to climate changes. Flooding could cause people to migrate from affected areas.
- Due to climate change weather fluctuations are getting more frequent in Iran and so in most cases, there is awareness mostly on the national TV.

Poll 4 continued:

No – 14% for example in:

Africa:

- Kenya: However, in some quarters yes, not as much but the awareness for climate gaining ground.
- South Africa: climate change is being dealt with as a separate issue.

Not sure – 27% for example in:

Countries who are not sure:

- Eswatini, South Africa, Madagascar, Botswana, Senegal, Madagascar, and Ethiopia.

Q3: How can climate changes increase the problem of hazardous wastes movement and its impact on environment and health?

How climate changes can increase the problem of hazardous wastes movement and its impact on environment and health:
➢ Extreme events may affect the movement of hazardous waste further, affect the leaching of the chemicals and affect underground water.
➢ Development of green tech and appliances to combat climate change will lead to the abandonment of old appliances, machines etc. Therefore, e-waste and other hazardous waste go to LMICs.
➢ The concept of bioaccumulation concerning climate change is concerning. As a result of climate change, chemicals can be absorbed by human bodies and cause adverse health risks.
➢ There is a need for mechanisms that prevent hazardous waste to be sent to LMICs. Countries moving into green economies have mechanisms in place that make products recycled by including mechanisms such as considering waste in their design and replacing raw materials with sustainable ones for products to make parts that can be recycled.
➢ Countries address e-waste while introducing green technology.

Poll 5: Why is illegal traffic of wastes still happening even if there is a Convention treating the movement of wastes and hazards wastes? (N=41)

Poor enforcement of national regulation – 39%, like:

- Enforcement of regulation or lack of inspection and monitoring activities to identify illegal traffic of waste
- In Ethiopia, there is weak enforcement.
- Illegal traffic exists because of poor border control and law enforcement.
- Lack of enforcement, avoiding the cost, lack of awareness at some levels
- Inadequate enforcement in LMICs. Often, "waste" comes in as donations close to their end of shelf life.
- Mostly a mismatch between policy, legislation, and legal enforcement.
- Lack of monitoring across borders.
- Lack of enforcement in policies/ legal framework to mitigate the same
- Lack of sanction's enforcement
- Weak implementation, enforcement mechanisms, the cost associated with new chemicals and the higher the recycling cost.
- Triangle situations: legal shipment to one country, from which the waste is then passed on illegally because of inadequate controls and enforcement (e.g., from Europe to Turkey, and from there to Asia).
- The monitoring mechanism for the movement of wastes by water, (especially for developing countries) is weak and this is taken advantage of by the illegal traffickers.
- Weak policies on enforcement of customs' laws.

Corruption – 20%, like:

- Corruption of officials in sending/receiving countries.
- Lack of integrity and corruption.
- Negligence and corruption.
- In LMICs, corruption leads to unethical law enforced, there are insufficient law enforcement officers and loopholes that exist in-laws and regulations.
- In Madagascar, there is corruption and poor border control.
- Porous borders due to corruption and to poverty on most of these borders. Inadequate control by law enforcers on the movement of goods in and out of different countries.
- The burden of financial gain and the 'risk' of penalties result in illegal activity.

Poll 5 continued:

Non-compliance/Implementation with international conventions – 17%, like:

- In Nepal, there is a weak implementation of the Convention.
- In Iran, like other LMICs, there are regulations, global conventions, etc. but, they are rarely followed.
- The convention applies to countries that agree to the conditions thereof and other countries, who have not ratified it, abrogate these international agreements.
- Although some countries are part of global conventions, they find ways to bypass the laws that have been put in place and look to serve their interests.
- The weak enforcement and coordination in addressing the illegal traffic of waste coupled with a low understanding of the convention
- Weak enforcement of conventions.
- As companies are free to declare items as a product or waste, they can be declared non- waste with little reason and as a result, not shipped under the Basel convention.

Other -14.6%, like:

- Probably evading paying the applicable transit fees.
- Ignorance and lack of competency may be the main causes. Sometimes it has to do with a lack of taking responsibility which may lead to uncontrollable illegal trade.
- One weakness is in implementation strategies.
- The missing rigour in the surveillance and control of the traffic but also a good control strategy.
- Waste finds new ways to get into the countries in the form of new recycled products fully loaded with toxic chemicals.
- Unclear definition of waste, many broken down items (cars, electronics, old tires...) are shipped as "used items", while they are no longer truly usable.

Lack of knowledge and infrastructure -12%, like:

- Lack of knowledge.
- Inadequate infrastructure in local contexts.
- Nepal lacks infrastructure such as laboratory as well as trained human resources to tackle illegal waste trading.
- Inadequate infrastructure in local contexts.

Poll 6: How can climate change increase the impacts of hazardous waste and other wastes? (N=23)

Increase toxicity – 31%, like:

- In Iran, most chemical reactions go faster in higher temperatures, also more recent weather fluctuations due to climate change already caused more heatwave problems.
- Many dangerous chemical ingredients become increasingly mobile with more heat and have higher rates of diffusion out of products.
- Heat stress increase chemical toxicity
- Increased flooding and perturbations of soil and riverbanks re-mobilizes chemicals which have been deposited and immobilized there.
- Climate changes increase the risks of floods, increase temperatures thus increasing the impacts of hazardous waste and other wastes.
- Each chemical has a certain point of temperature at which it moves into a gaseous phase. 9ith increased temperatures, this point is reached more frequently
- Climate change can increase the formation of fires in landfill sites due to high temperatures
- It may also increase the rates of reactions.
- Changing the nature of the compounds into more hazardous chemicals.

Environmental hazards -26%, like:

- When there is increased flooding, then the toxic waste can impact the endangered environment.
- Increased intensity and frequency of flooding will increase unintentional releases from waste disposal sites
- Heat causes evaporation and is easily available in the environment through inhalation.
- Heat makes the polluted hot air travel longer distances and thereby increases the exposed populations.
- High temperatures contribute to fires if it exceeds the flush point of pesticides.
- Microplastics are found in the world's highest peak of Mt Everest.

Increase in the transportation of hazardous waste -34%, like:

- Increase toxicity and transportation.
- Climate change events may affect chemical handling and results sometimes in movements of chemicals reducing allowed response time
- Climate change is related to an increase in hazardous waste and particularly during high heatwaves, flooding.
- By increasing the toxicity of waste, distributing waste to different places.
- Flood water will wash and carry the hazardous waste from one place to other areas thus spreading the contamination.
- Tornados, fierce winds etc. occur more often with climate change and can transport hazardous waste and chemicals to far away regions, spreading contamination far and abroad
- With warmer oceans, hazardous waste can travel to far places

Poll 6 continued:
Other -7%, like:

- The increasing frequency and probability of climate change-related extreme events are not considered by government regulations. It is more the insurance industry which pushes companies to take it into account because of their risks.
- The climate change? weakens the economy and our adaptive capacity resulted in a week of looking for new technology and good alternatives.

Helpful resources:

- OECD webpage on Natech: https://www.oecd.org/chemicalsafety/chemical-accidents/risks-from-natural-hazards-at-hazardous-installations.htm
- OECD Brochure for Natech Risk Awareness (2022) https://www.oecd.org/chemicalsafety/chemical-accidents/impact-of-natural-hazards-on-hazardous-installations.pdf
- Natech Common Inspections Criteria (EC Joint Research Center, 2021): *https://minerva.jrc.ec.europa.eu/en/shorturl/minerva/jrc121493cic_natechnewpdf*
- AIChE (2019), CCPS Monograph: Assessment of and planning for natural hazards, https://www.aiche.org/sites/default/files/html/536181/NaturalDisaster-CCPSmonograph.html
- eNATECH accident database: https://enatech.jrc.ec.europa.eu/
- RAPID-N Natech risk assessment system: https://rapidn.jrc.ec.europa.eu/
- UNECE webpage on Natech: https://unece.org/industrial-accidents-convention-and-natural-disasters-natech
- Environmental Emergency Center : https://www.eecentre.org/
- UNDRR work on disaster risk reduction: https://www.undrr.org/
- ILO Prevention of Major Industrial Accidents Convention No. 174: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:55:0::NO::P55_TYPE,P55_LANG,P55_DOCUMENT,P55_NODE:CON,en,C174,/Document
- ILO Prevention of Major Industrial Accidents Recommendation No. 181: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:55:0:::55:P55_TYPE,P55_LANG,P55_DOCUMENT,P55_NODE:REC,en,R181,/Document
- ILO Code of Practice on Major Industrial Accidents: https://www.ilo.org/global/topics/safety-and-health-at-work/normative-instruments/code-of-practice/WCMS_107829/lang--en/index.htm
- ILO issue paper - Climate Change and Labour: Impacts of Heat in the Workplace: https://www.ilo.org/global/topics/green-jobs/publications/WCMS_476194/lang--en/index.htm
- ILO research report - Working on a warmer planet: The effect of heat stress on productivity and decent work: https://www.ilo.org/global/publications/books/WCMS_711919/lang--en/index.htm
- ILO video, OSH and climate change: Vision Zero Fund - OSH & Climate Change (DRAFT 2).mp4 on Vimeo
- Basel convention: http://www.basel.int/
- Illegal waste trade: what's driving this multi-billion dollar transnational crime and what could stop it?: https://baselgovernance.org/news/illegal-waste-trade-whats-driving-multi-billion-dollar-transnational-crime-and-what-could-stop
- Waste crime –waste risksgaps in meeting the global waste challenge: WASTE CRIME –WASTE RISKSGAPS IN MEETING THE GLOBAL WASTE CHALLENGE
- Environmental crimes are on the rise, so are efforts to prevent them: https://www.unep.org/news-and-stories/story/environmental-crimes-are-rise-so-are-efforts-prevent-them
- Plastic waste and climate change - what's the connection?: https://www.wwf.org.au/news/blogs/plastic-waste-and-climate-change-whats-the-connection
- CHEMICALS, WASTES AND CLIMATE CHANGE: https://www.mercuryconvention.org/climatechange-report/

CSDGs CoP: The Secretariat of the Strategic Approach to International Chemicals Management (SAICM) and the Environmental Health Division at the University of Cape Town (UCT) created this Community of Practice (CoP) to foster online discussions and address key issues on Chemicals and SDGs (CSDGs) among stakeholders from governments, international organizations, industry, academia and civil society.

This CoP is contributing to the SAICM/GEF project on Emerging Chemicals Policy Issues Knowledge Management Component. This activity is supported by the Global Environment Facility (GEF) project ID: 9771 on *Global Best Practices on Emerging Chemical Policy Issues of Concern under the Strategic Approach to International Chemicals Management (SAICM).*

If you have any question or require clarification on this initiative, please contact the SAICM Secretariat at saicm.chemicals@un.org or UCT at uctcops@outlook.com.

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