

*Regional Forum - Meeting of the Heads of emergency authorities of
Central Asian countries*

UNECE's Work on Mine Tailings Safety and Climate Change

Presentation by Ms. Claudia Kamke, Environmental Affairs Officer,
UNECE Convention on the Transboundary Effects of Industrial Accidents

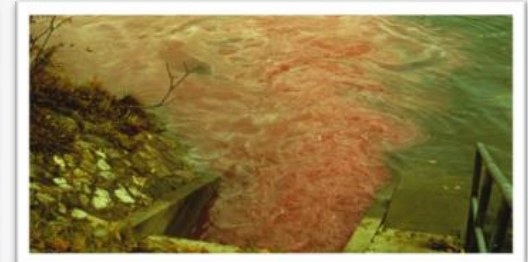
10 November 2023, Almaty, Kazakhstan



Convention on the Transboundary Effects of Industrial Accidents



1986 Negotiated following Sandoz chemical accident at Schweizerhalle
1992 Adopted
2000 Entered into force



Sandoz spill, Schweizerhalle, Switzerland (1986)

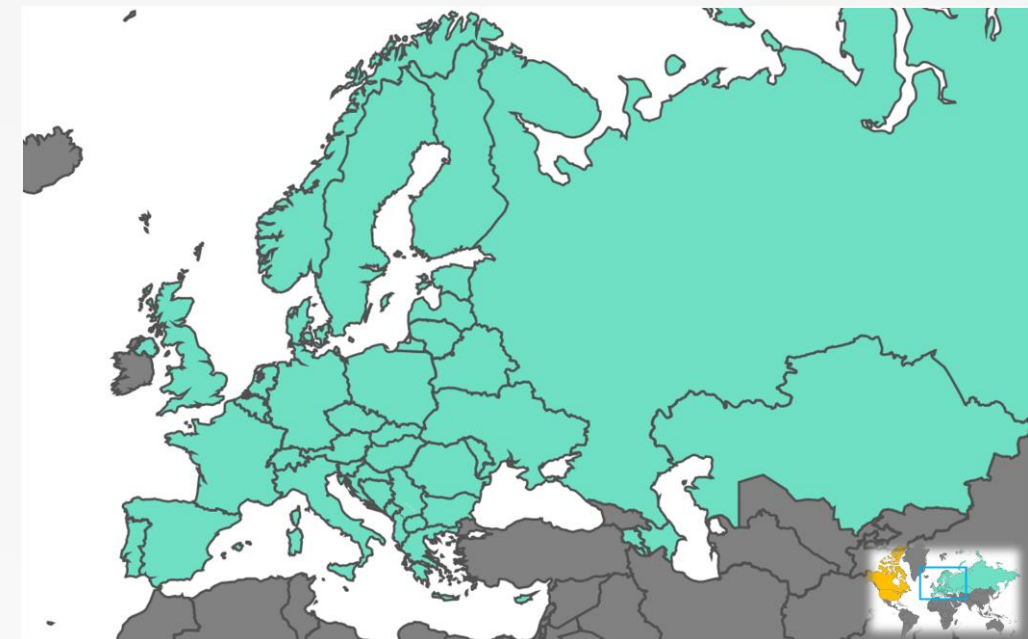


42 Parties in the UNECE region
(Kazakhstan only Party in Central Asia)



Designed to protect **people and the environment** against industrial accidents by preventing, preparing for and responding to accidents

Covers **Natech** (natural-hazard triggered technological) events and **tailings management facilities (TMFs)**



Assistance and Cooperation Programme



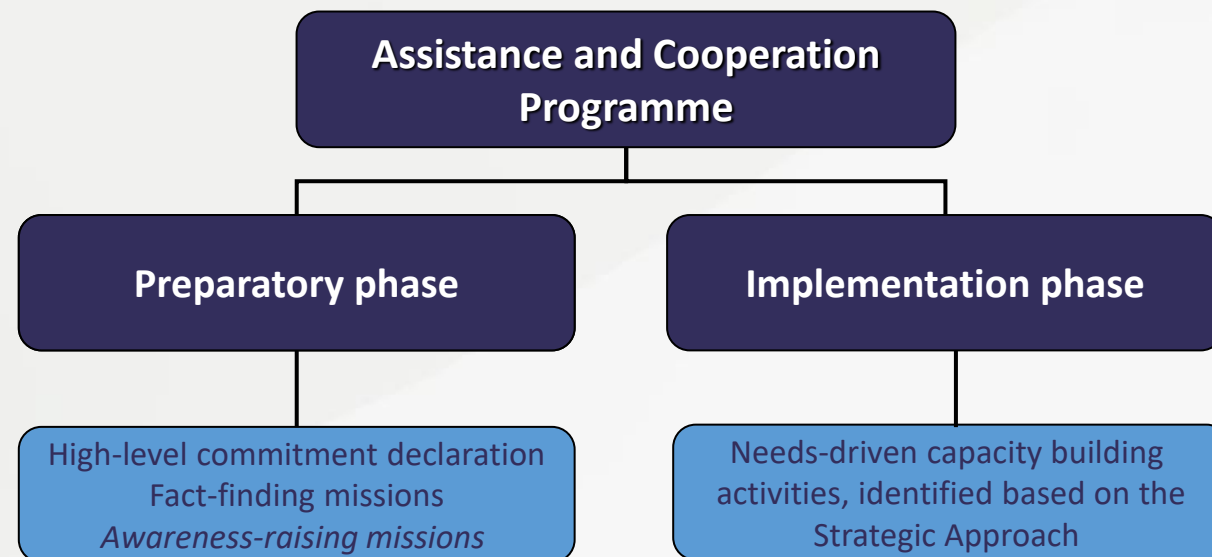
2004 Created (AP)
2018 Renamed and rebranded (ACP)

The Tenth Conference of the Parties:

- Rebranded to ensure that the Programme remains an effective instrument for delivering assistance and increasing capacity at all levels



- Support countries of **South-Eastern and Eastern Europe, the Caucasus and Central Asia** in the implementation of the Convention.
- **Beneficiaries** cooperate increasingly and support each-other, taking full ownership for activities carried out.
- Implementing multi-year, multi-country projects.



Focus on
**Transboundary
Cooperation**

Joint Expert Group on Water and Industrial Accidents and Its Guidelines



**Water Convention
Industrial Accidents Convention**



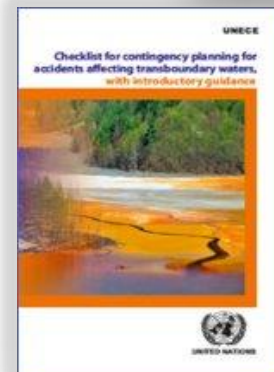
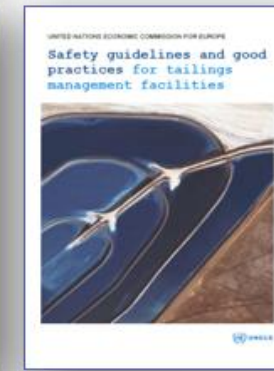
1998 Founded



- Focused on preventing accidental water pollution, including **in the event of Natech accidents**, and its consequences.
- Combining integrated **water resources management** with **industrial safety**.



Guidelines, Methodologies and Checklists



2030 Road Map for action to strengthen mine tailings safety within and beyond the UNECE region

Contains 5 key objectives:

A. Understanding TMF-related risks within and across national borders

B. Addressing TMF risks through policy and governance

C. Prevention and preparedness for accidental water pollution from TMFs to ensure water quality

D. Prevention of natural hazard-triggered industrial accidents (Natech events) and adaptation to climate change

E. Exchange of information and knowledge and capacity-building



→ For each objective:

- Objective summary
- Proposed approach to achieve objective
- **Actions for Parties and MS within the ECE region and beyond**
- Actions by ECE-secretariat
- Joint or complementary actions by ECE secretariat and other international organizations

→ Road Map available in [ENG](#), [FRE](#) and [RUS](#).

2030 Road Map for Action on Tailings Safety in the UNECE Region and Beyond

2023–2024

- Promote understanding of the risks associated with tailings
- Review and update existing measures and legislation
- Use existing and create new working groups and national coordination mechanisms
- Report tailings as a hazardous activity (10th reporting cycle)



NEXT Steps

- **Prepare an overview:** tailings facilities in the UNECE region, possible existing threats, risks and hot spots
- **Improve shared understanding and risk management across countries**
- **Facilitate multi-stakeholder dialogue on existing benefits and challenges in the UNECE region and beyond**

2025–2026



**UNECE Activities
implementing Part II.,
12.7 of the Road Map on
the Implementation of
the Strategy for the
Development of
Cooperation
Between Central Asian
Countries in DRR**

II. – Improving Knowledge and Understanding of Disaster Risk, especially those of a transboundary nature

12.7 – Integration of technological and industrial disaster threats in DRR policies, plans and programs

Integration of technological and industrial disaster threats in DRR policies, plans and programs

Joint project of **UNECE** and **UNDRR**

General Information

Beneficiary Countries:

- **Kyrgyzstan** and **Tajikistan**

Dates:

- August 2022 – January 2023

More information:

- <https://unece.org/environment-policy/industrial-accidents/addressing-technologicalindustrial-accident-risks-national>

Objectives

- To integrate technological/industrial accident risks into DRR plans of Kyrgyzstan and Tajikistan
- To advance existing policies and governance of multi-hazards risks, including in transboundary context
- To strengthen the implementation of the Sendai Framework and the UNECE Industrial Accidents Convention.

Results


- The project resulted, among others, in the development of country-specific recommendations to facilitate better management of technological/industrial accident risks, including Natech risks, and transboundary consideration into national action plans
- Contextual analysis reports on the risks of technological/industrial accidents in national DRR plans and strategies


The project contributed to the achievement of the following priorities of the Strategy for the development of cooperation between the CA countries on DRR:

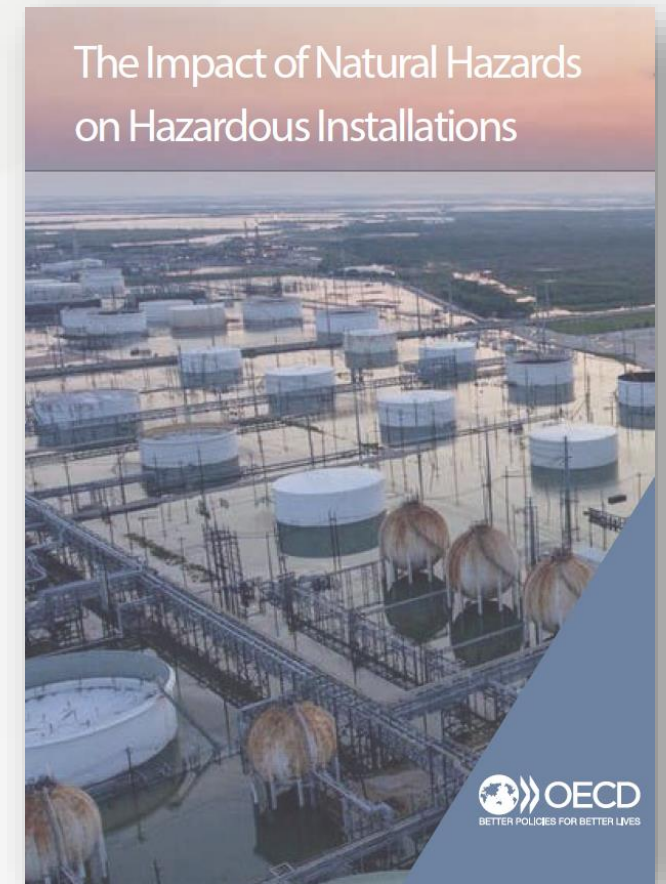
- Improved understanding of disaster risk
- Strengthening institutional capacity for disaster risk management

Addressing Natech risks & climate change impacts

 **Managing Natech risk** is a priority under the Industrial Accidents Convention and enshrined in its Long-Term Strategy up to 2030

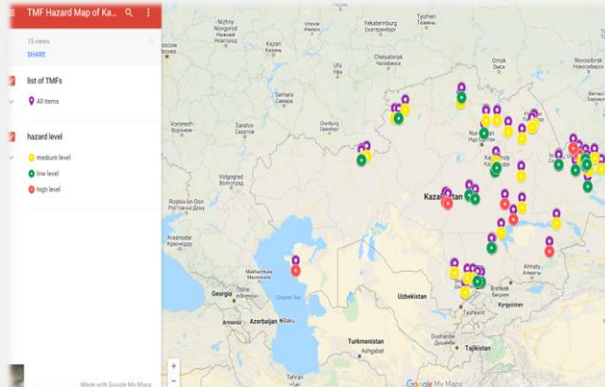
-  Recent:
- COP-12 adopted [Decision 2022/1 on Strengthening Natech risk management in the UNECE region and beyond](#)
 - [UNECE/OECD Seminar on effective management of technological risks of accidents triggered by natural hazards](#)
 - [OECD/UNECE brochure on The Impact of Natural Hazards on Hazardous Installations](#)
 - Member of the OECD Natech Steering Group

-  Forthcoming in 2024: Joint OECD/UN/EU JRC Guidance *Managing Natech Accident Risk: A guide for senior leaders in industry and public authorities*
- Aim to provide high-level support for governing Natech risk and long-term sustainable development at hazardous installations, including for adaptation to climate change



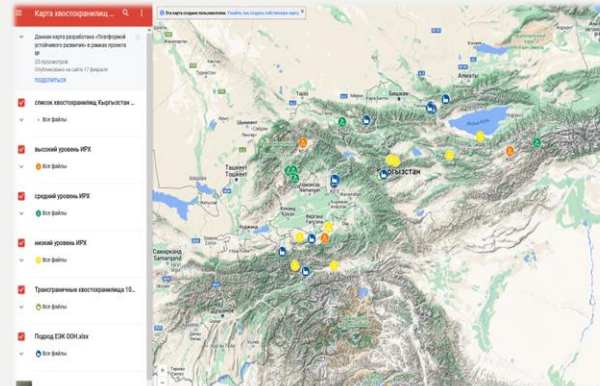
Inventories and maps of 237 TMFs in Central Asia

TMF mapping in Kazakhstan



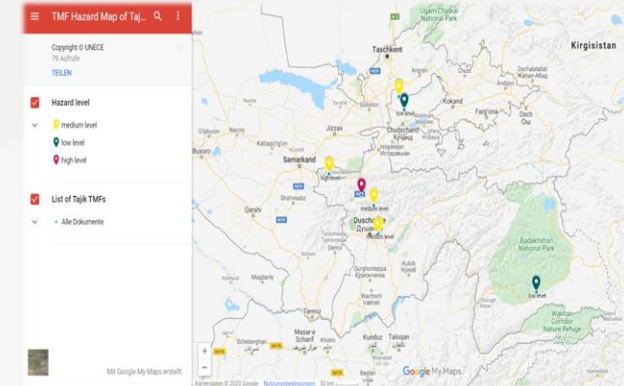
✓ Inventory and mapping of **121 TMFs**

TMF mapping in Kyrgyzstan



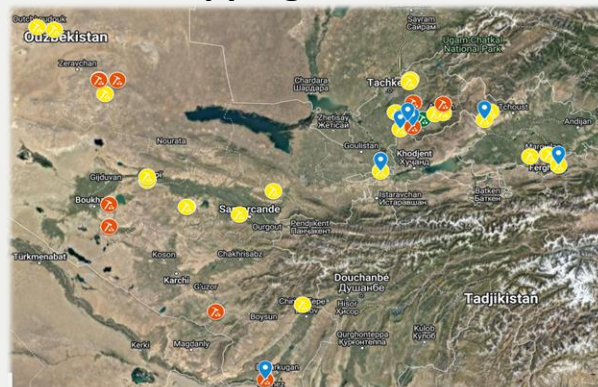
✓ Inventory and mapping of **62 TMFs**

TMF mapping in Tajikistan



✓ Inventory and mapping of **13 TMFs**

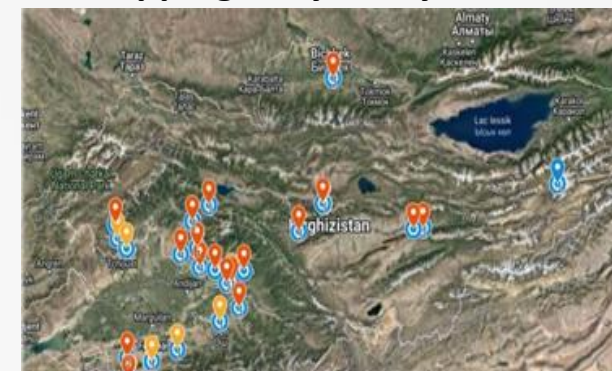
TMF mapping in Uzbekistan



✓ Inventory and mapping of **41 TMFs**

All TMFs were assessed using the [TMF Methodology](#), incl. Tailings Hazard (THI) and Tailings Risk (TRI) Indexes

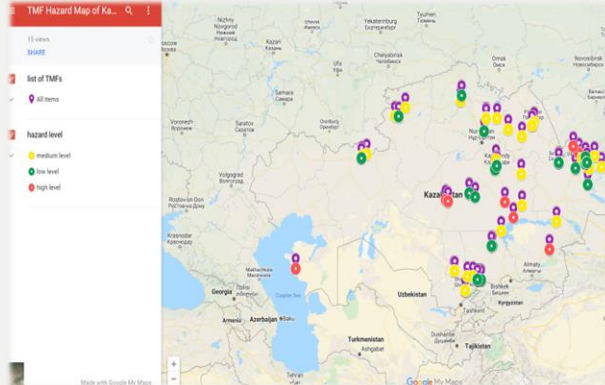
TMF mapping in Syr Darya river basin



✓ Inventory and mapping of **61 TMFs**

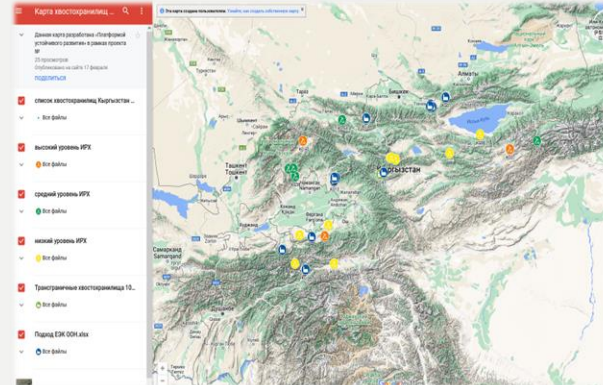
59 TMFs in Central Asia with potential transboundary effects

TMF mapping in Kazakhstan



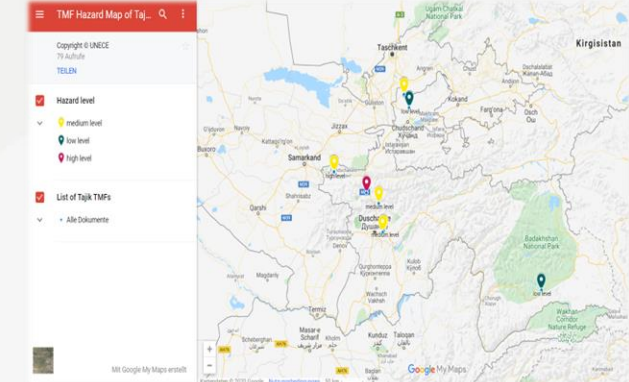
7 TMFs could have transboundary effects

TMF mapping in Kyrgyzstan



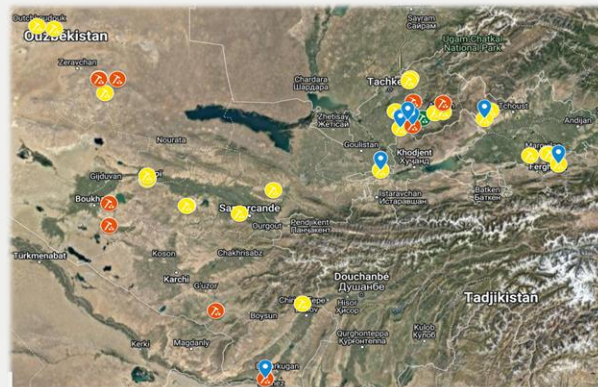
38 TMFs could have transboundary effects

TMF mapping in Tajikistan



4 TMFs could have transboundary effects

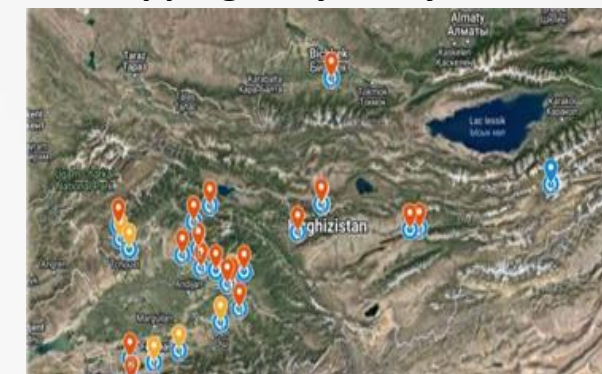
TMF mapping in Uzbekistan



10 TMFs could have transboundary effects

59 out of 237 TMFs may have potential transboundary effects → 25%

TMF mapping in Syr Darya river basin



33 TMFs could have transboundary effects
→ 19 in KYR, 10 in TAJ and 4 in UZB

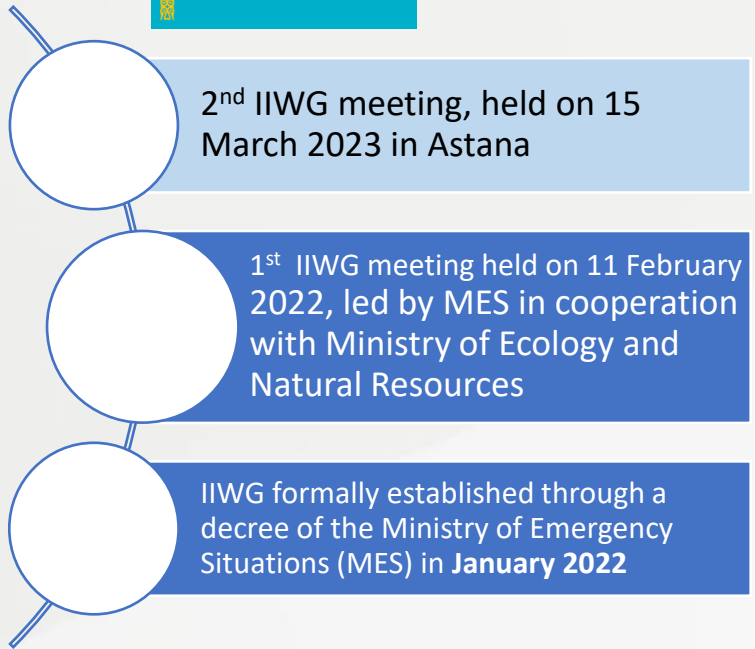
Strengthened Tailings Governance in Central Asia

Establishment of and support to the Interinstitutional Working Groups on Tailings Safety and the Prevention of Accidental Water Pollution (IIWG)

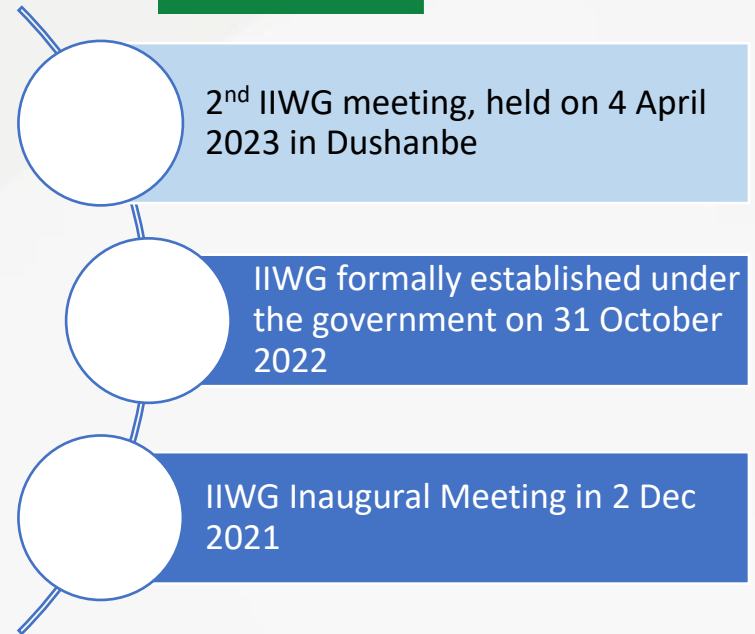
To improve inter-institutional coordination and cooperation among industrial safety, water, and other relevant authorities and institutions as well as with operators, academia and NGOs on preventing accidental water pollution from tailings management facilities, including those with potential cross-border effects



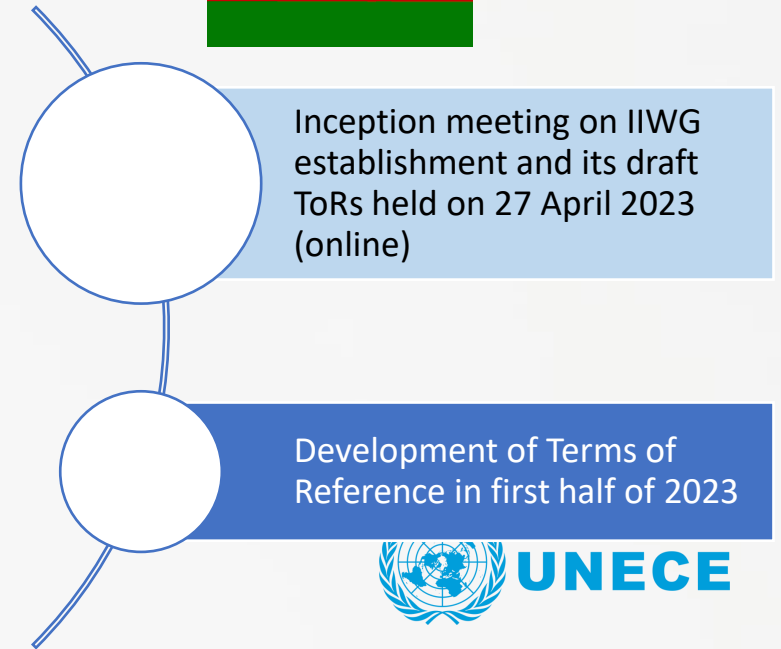
Kazakhstan



Tajikistan



Uzbekistan



Future activities by UNECE in support of 12.7



Plans for 2024:

- Encourage implementation of the recommendations by *Kyrgyzstan* and *Tajikistan*
- Promote the results of the projects in all **Central Asian countries**
- Support *Uzbekistan* in the establishment of an IIWG and organization of an on-site training at a tailings management facility
- OECD, UNECE, EU JRC will finalize and launch **guidance on Natech risk management**



Meetings in 2024:

- Support Kazakhstan, Tajikistan and Uzbekistan in the holding of IIWG meetings
→ IIWGs serve as platforms to discuss **Natech risks**, exacerbated due to **climate change**, among relevant stakeholders

An aerial photograph showing a large-scale construction or mining site. The terrain is dark and rocky, with several long, elevated conveyor belts or transport systems stretching across it. A yellow excavator is visible in the center, and various pieces of heavy machinery and infrastructure are scattered throughout the site.

UNECE activities implementing item 23.6 of the Road Map on the Implementation of the Strategy for the Development of Cooperation Between Central Asian Countries in DRR

IV. – Strengthening Emergency Preparedness

23.6 – Development of a joint emergency plan between neighboring countries with harmonized standard operating procedures for accident notification, response and mutual assistance in the Syr Darya basin

Some key findings

- **Main sources of water pollution** in the Syr Darya Basin: Industry, agriculture, municipal sewage (in all 4 countries)
- **54% (33 TMF) of 61 TMFs in the Basin could have transboundary effects**, in case of an accident
- **High Natech risks in Central Asia:**



- ❑ For example, in **Tajikistan**, most tailings dumps are located near settlements and near rivers. A comprehensive assessment of the territory is required - seismic hazard, landslides, landslides, floods, flooding of territories and sites, mudflows, and secondary consequences of earthquakes.
- ❑ And in **Kyrgyzstan**, extreme weather events can cause accidents at tailings dams. On the territory of Kyrgyzstan there are tailings dumps with a high risk of accident.
- ❑ In **Uzbekistan**, in the basin of the Syr Darya River, almost all branches of heavy and light industry are represented. In the event of accidents, a full range of pollutants can get into the river (from petroleum products and heavy metals to reagents for the processing of agricultural products).

- Need to continue work on improving industrial safety and eliminating the risks of accidental water pollution
- **No joint contingency plan** for emergency situations for industrial pollution → **need to develop one**



Subregional workshop on strengthening mine tailings safety in Central Asia

(Dushanbe, Tajikistan, 25-26 May 2023)

- **70 participants** (online&in-person) from 5 Central Asian countries, incl. from authorities, operators, academia, NGOs & regional/IOs
- **High-level session** with the Vice-Minister of Emergency Situations of Kazakhstan, the Vice-Minister of Natural Resources of Kazakhstan, the Deputy Minister of Energy and Water Resources of Tajikistan and the Deputy Minister of Emergency Situations of Uzbekistan

Key needs and recommendations for follow-up

1. Kazakhstan suggested establishing a joint working group (at a technical level) on the monitoring and control of the transboundary TMFs in Central Asia.
2. Tajikistan suggested setting up a coordination council (at the political level) between Central Asian countries to explore the potential risks related to TMFs and the prevention of accidental water pollution.
3. Uzbekistan pointed out the need to develop joint contingency plans, notably in river basins, in Central Asia and several Central Asian countries recommended to develop a joint Contingency Plan for the Syr Darya River Basin.
4. IWAC proposed launching a pilot project on assessing the impacts of climate change on TMFs in Central Asia to study the impacts and adaptation measures.
5. CESDRR highlighted the need to establish a sustainable early warning and alert system at the national and regional levels, e.g. to detect seismic movements, to help countries to prepare for hazardous climate-related events.
6. Participants stressed the vital role of the IIWGs as multi-stakeholder platforms for the exchange and coordination on mine tailings safety and recommended the establishment of such groups in other Central Asian countries.

Future activities by UNECE in support of 23.6



Plans for 2024-2025:

- 2024: Start a three-year project on the prevention of accidental water pollution in the face of climate change in Uzbekistan (tbc)
 - ✓ Support to the Joint Uzbek-Kazakh Working Group on Environmental Protection and Water Quality in the Syr Darya River Basin
- 2025: Start a four-year project on improving climate knowledge and disaster risk governance for mine tailings facilities in Central Asia, with ESCAP (tbc)



Meetings & Events in 2024:

- A [workshop hosted by Slovakia](#) on increasing capacities to prevent, prepare for and respond to accidental water pollution from tailing facilities on **23 April 2024**.
- A site visit to a TMF may be organized on **24 April 2024**.
- 13th meeting of the Conference of the Parties (planned for **Nov/Dec 2024**):
 - ✓ Will include a round-table on the implementation of the 2030 Road Map for Action on Mine Tailings Safety and an exchange of information on InSAR

Thank you for your attention!

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UNECE Convention on the Transboundary Effects of Industrial Accidents

