

Final knowledge exchange workshop within the project on Stakeholder Engagement for Uranium Legacy Remediation in Central Asia Phase II

UNECE's work and perspectives on strengthening mine tailings safety and governance in Central Asia and beyond

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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)**



-  Parties
-  Non-Parties
-  The US and Canada are signatories

Assistance and Cooperation Programme



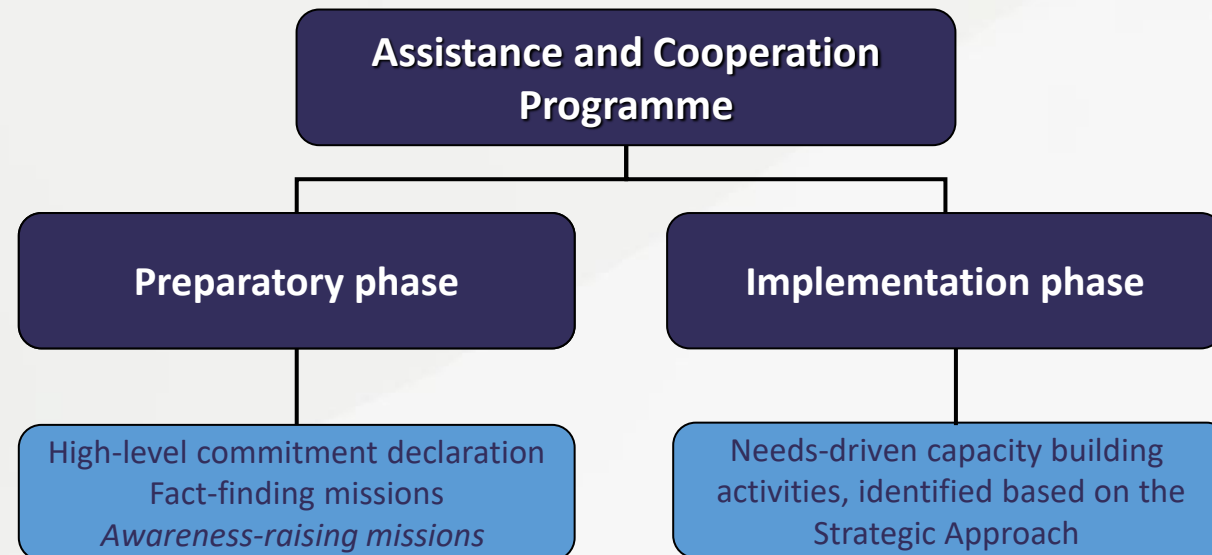
2004 Created (AP)
2018 Renamed and rebranded (ACP)

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**



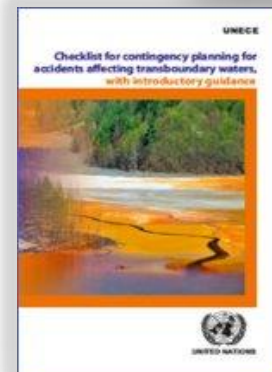
1998 Founded




- 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

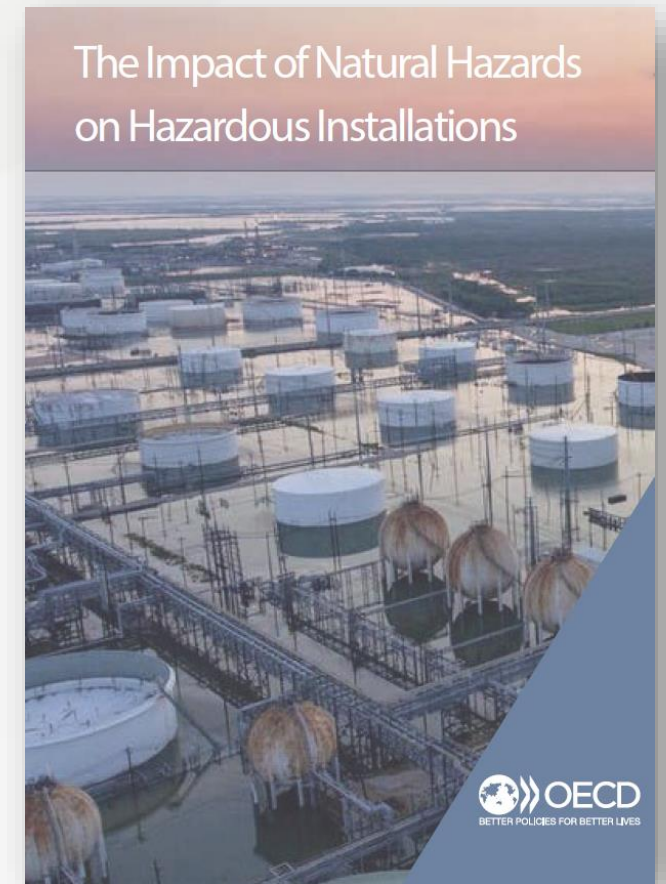


Addressing Natech risks & climate change impacts

 **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



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)



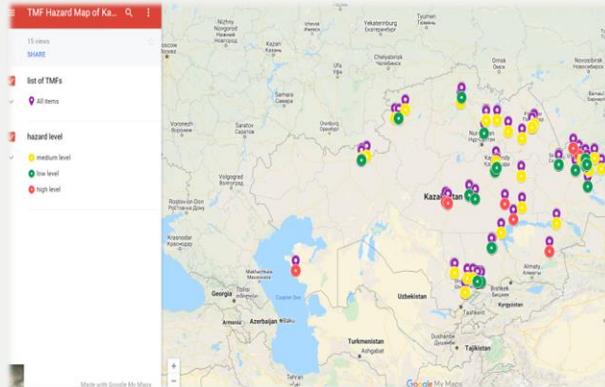
NEXT Steps

- **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

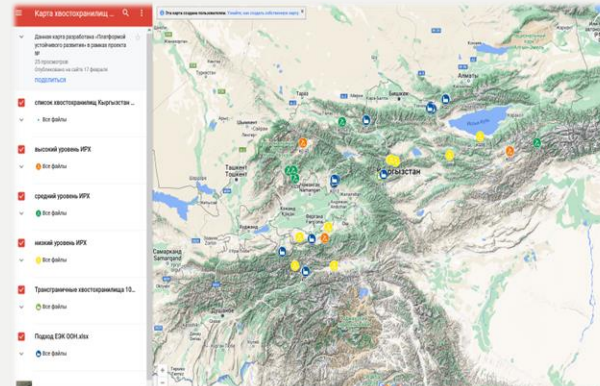
Inventories and maps of 237 TMFs in Central Asia

TMF mapping in Kazakhstan



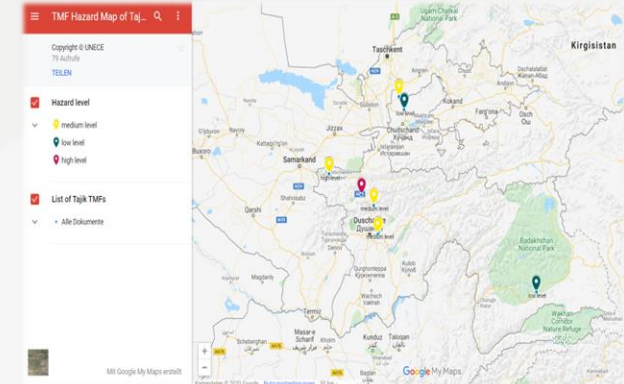
✓ Inventory and mapping of **121 TMFs**

TMF mapping in Kyrgyzstan



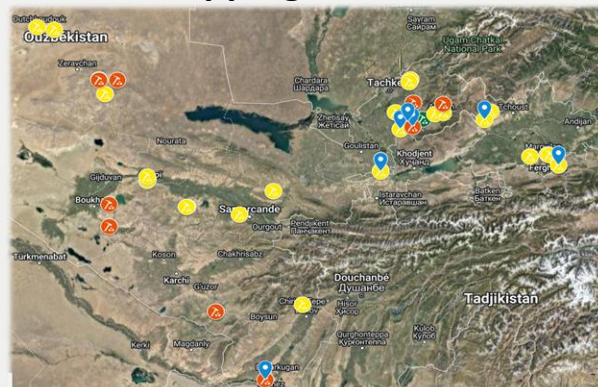
✓ Inventory and mapping of **62 TMFs**

TMF mapping in Tajikistan



✓ Inventory and mapping of **13 TMFs**

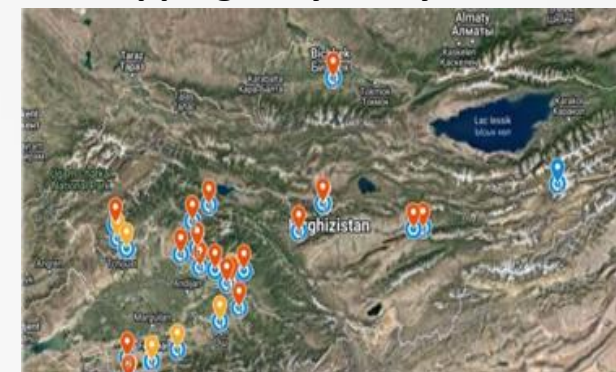
TMF mapping in Uzbekistan



✓ Inventory and mapping of **41 TMFs**

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

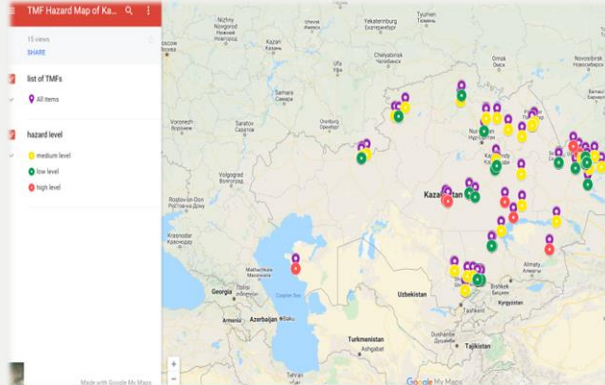
TMF mapping in Syr Darya river basin



✓ Inventory and mapping of **61 TMFs**

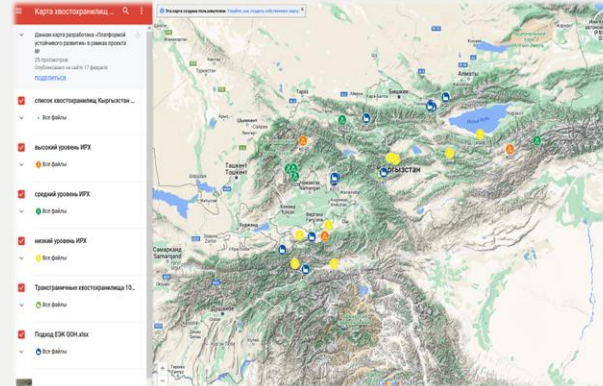
59 TMFs in Central Asia with potential transboundary effects

TMF mapping in Kazakhstan



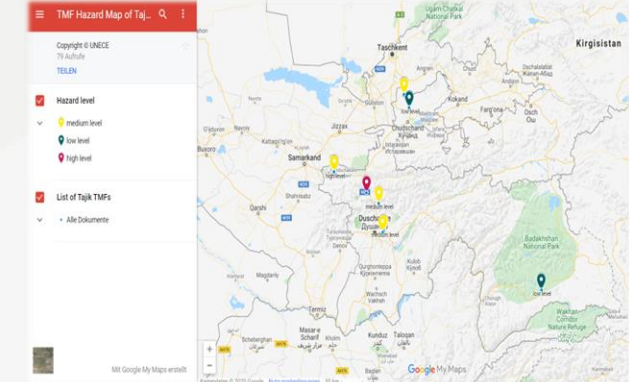
7 TMFs could have transboundary effects

TMF mapping in Kyrgyzstan



38 TMFs could have transboundary effects

TMF mapping in Tajikistan



4 TMFs could have transboundary effects

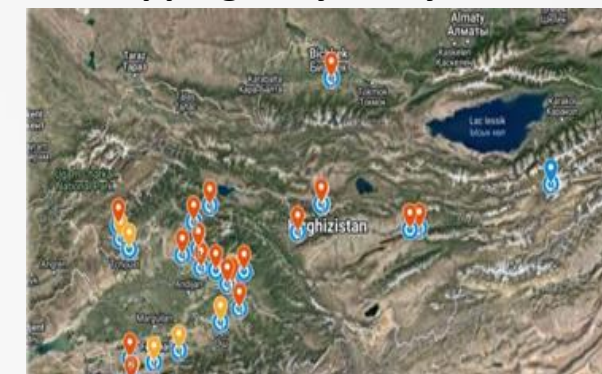
TMF mapping in Uzbekistan



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

2nd IIWG meeting, held on 15 March 2023 in Astana

1st IIWG meeting held on 11 February 2022, led by MES in cooperation with Ministry of Ecology and Natural Resources

IIWG formally established through a decree of the Ministry of Emergency Situations (MES) in **January 2022**



Tajikistan

2nd IIWG meeting, held on 4 April 2023 in Dushanbe

IIWG formally established under the government on 31 October 2022

IIWG Inaugural Meeting in 2 Dec 2021



Uzbekistan

Inception meeting on IIWG establishment and its draft ToRs held on 27 April 2023 (online)

Development of Terms of Reference in first half of 2023

Development of a study on pollution sources and the identification of accident risks the Syr Darya River Basin

General Information

Beneficiary Countries:

- **Kyrgyzstan, Kazakhstan, Tajikistan and Uzbekistan**

Duration:

- June 2021 – February 2023

Objectives

- To reduce and prevent pollution of the water resources of the Syr Darya river basin



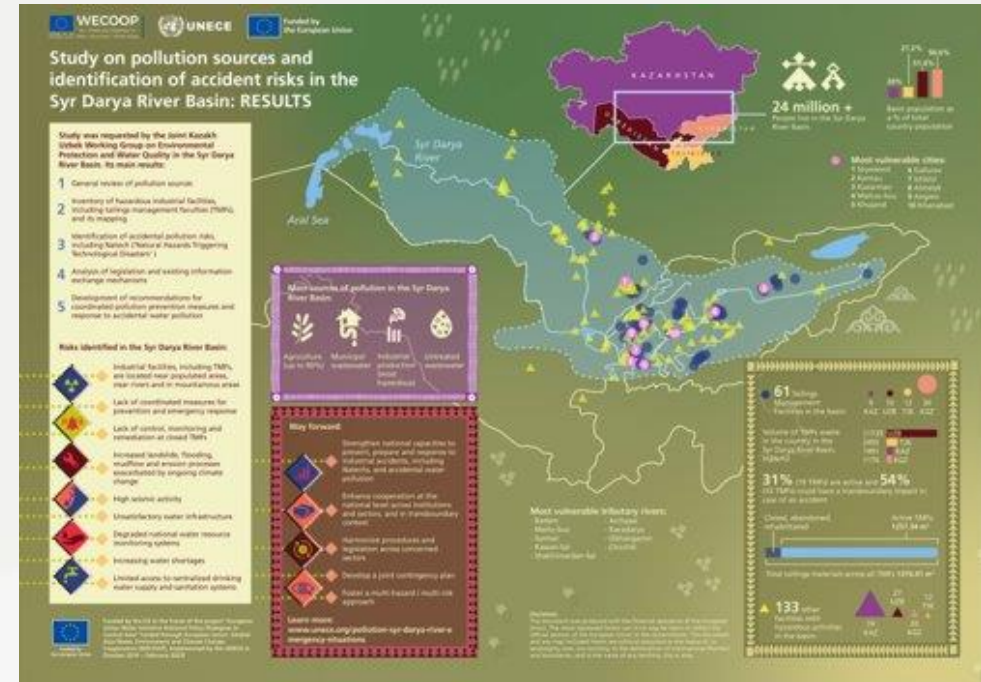
Results

- An **in-depth report** examining the state of water resources, water quality issues, issues related to policies and institutions in the field of water management, industrial safety and prevention of accidental water pollution. **It contains specific recommendations to be implemented by riparian countries**
- Inventory and mapping of 61 tailings and 133 other hazardous enterprises in the Syr Darya River Basin
- Infographic and Executive Summary with key takeaways



Some key findings

- **Sources of water pollution** of the Syr Darya River: Industry, agriculture, municipal sewage (in all 4 countries)
- **Need to develop a Joint Contingency Plan** to prevent, prepare for and respond to **emergency situations** in the Syr Darya River Basin
- **High Natch risks in Central Asia:** Necessary to continue work on improving industrial safety and eliminating the risks of accidental water pollution.



- ❑ 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, 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).



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 Central Asia



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
- 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 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
- 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

Future activities by UNECE of interest



Plans for 2024-2025:

- OECD, UNECE, EU JRC will finalize and launch **guidance on Natech risk management**



Meetings & Events in 2024:

- A [workshop hosted by Slovakia](#) organized by JEG 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**.

Online Toolkit & Training for Improving Tailings Safety

Онлайн-инструментарий и подготовка по повышению безопасности хвостохранилищ

Общий обзор

Промышленные аварии на хвостохранилищах уже приводили к экологическим катастрофам с разрушительными последствиями для людей и окружающей среды на территории стран и за их пределами. Крупные промышленные аварии в регионе ЕЭК ООН и за его пределами побудили страны разработать и внедрить инструменты в рамках Конвенции ЕЭК ООН о трансграничном воздействии промышленных аварий для повышения безопасности хвостохранилищ и предотвращения таких аварий в будущем.



Этот онлайн-инструментарий помогает странам в укреплении безопасности хвостохранилищ и практики управления ими. Он служит центральным узлом для всех, кто хочет узнать о важности обеспечения безопасности хвостохранилищ, соответствующей работе и инструментах в рамках Конвенции. В то же время он обеспечивает для стран дистанционную подготовку без необходимости личного присутствия, чтобы улучшить их знания о воздействиях и проблемах, связанных с хвостохранилищами, чтобы применять существующие руководящие принципы, включая инструменты ЕЭК ООН, для повышения безопасности хвостохранилищ. Этот интерактивный инструментарий и подготовка включают в себя четыре раздела в раскрывающемся меню ниже: справочная информация о безопасности хвостохранилищ; трехстадийная практическая учебная подготовка для стран по совершенствованию практики безопасного управления; резюме работы ЕЭК ООН по хвостохранилищам и партнеров; а также дополнительная литература, включающая ключевые доклады и ссылки на источники информации.

Повышение безопасности шахтных хвостохранилищ и улучшение управления ими позволяют странам лучше понимать риски бедствий и управлять ими, в том числе и в рамках межведомственного и межсекторального сотрудничества. Таким образом, эта работа способствует достижению целей Повестки дня на период до 2030 года с ее целями в области устойчивого развития и Сендайской рамочной программы по снижению риска бедствий. Это также укрепляет государственное управление недрами, устойчивую инфраструктуру и устойчивость к бедствиям как в самих странах, так и за их пределами.

Справочная информация - Призыв к незамедлительным действиям

Практическая подготовка (3 стадии)

Работа ЕЭК ООН в области хвостохранилищ и партнеры

Дополнительная литература - ключевые доклады и ссылки на источники информации по безопасности хвостохранилищ

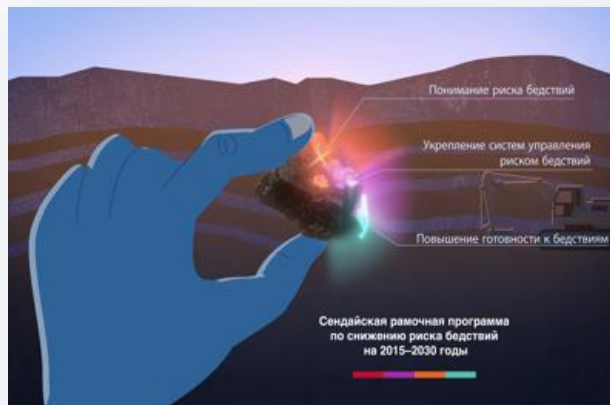
SENDAI FRAMEWORK
FOR DISASTER RISK REDUCTION 2015-2030

SUSTAINABLE
DEVELOPMENT GOALS

- Promotes knowledge of tailings safety through online training on the application of relevant safety guidelines and methodology

Consists of:

- Reference information on the safety of tailings
- Practical training → 3-step approach
- Brief information on UNECE work related to tailings and partners
- Further reading (main reports and links)
- Available in [ENG](#) and [RUS](#)



Includes tailings safety training video
(ENG, RUS)

Thank you for your attention!

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