Mission to support the accession of Georgia to the UNECE Industrial Accidents Convention

UNECE & Industrial Accidents Convention's Activities supporting SDGs, Strengthening Environmental Governance and Disaster Risk Reduction

Presentation by Mr. Georgios Georgiadis,
Secretary, Industrial Accidents Convention
Roundtable meeting,

Tbilisi, 8 November 2023
10:00 – 16:00

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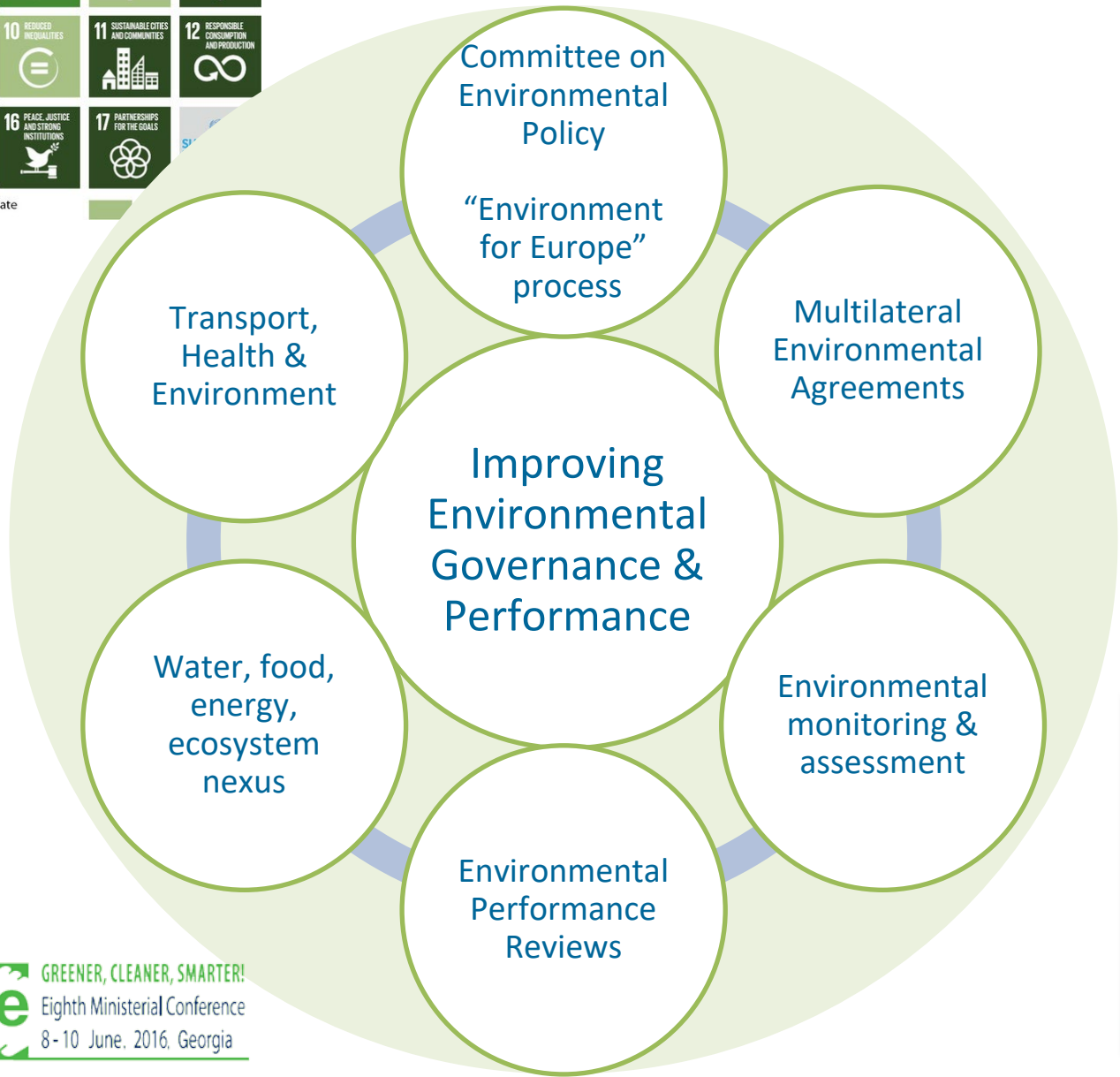
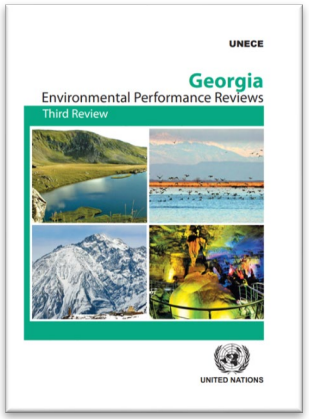
UNECE Environment and SUSTAINABLE DEVELOPMENT GOALS

Overview of the Environmental subprogramme's relative bearing for each SDG[1]

Environment





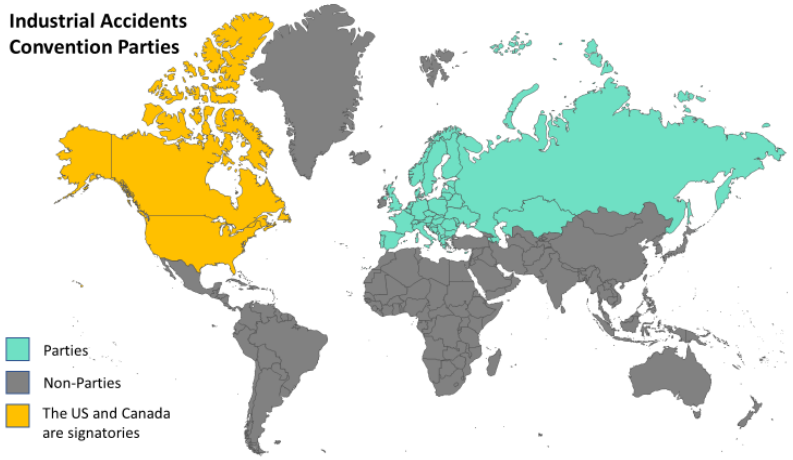
Batumi 2016

GREENER, CLEANER, SMARTER!
Eighth Ministerial Conference
8-10 June, 2016, Georgia

Industrial Accidents Convention Status

ENVIRONMENT

- Triggered by the 1986 Sandoz accident; adopted in 1992; in force since 2000
- 42 Parties (UNECE region), incl. EU and 25 of its Member States; 2 signatories (Canada and USA) & Global activities, incl. with Water Convention
- Protects people and the environment against industrial accidents by strengthening prevention, preparedness and response
- Focus on transboundary cooperation, and horizontal coordination in public policy
- Covers Natech (natural-hazard triggered technological) events and tailings facilities
- Key in ensuring safe energy transition – essential component in surge global demand for critical minerals



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Industrial Accidents Convention and SDGs

Protects human health from hazardous chemicals by reducing the risk of technological disasters releasing chemical substances

Prevents accidental water pollution from industrial accidents

Promotes safe & sustainable management of industrial installations

Encourages integrated policies (land-use planning/siting) to achieve resilience to disasters, in line with the Sendai Framework for Disaster Risk Reduction

Prevents accidental release of chemicals, thus contributing to their environmentally sound management (Annex I)

Strengthens the link between natural and man-made disasters (NATECH) **and supports the industrial safety of the energy transition**

Ensures public information and participation in the prevention of, preparedness for and response to industrial accidents

Global Key Trends and Challenges

- **Critical Raw Materials (CRM)**: Increasing demand for CRMs is projected, creating potential shortages, trade dependency, geopolitical challenges, and increasing TMFs risks
- **Hazards and Risks of Tailings Management Facilities (TMFs):** Lack of knowledge of TMFs (number, location, state, condition), transboundary effects of TMFs, and effective management of TMF risks for prevention
- **Natural Hazards Triggering Technological Disasters (NATECH) Events:** Natural hazards, frequent and severe weather events of climate change increase risk of TMF failures & transb. impacts

TMF cyanide spill at Ridder (Kazakhstan, 2016)

Brumandinho dam collapse (Brazil, 2019)

Baia Mare cyanide spill (Romania, 2000)

Mount Polley tailings dam break (Canada, 2014)

Sources:

1. https://siberiantimes.com/ecology/others/news/n0671-stinking-poisoned-water-flows-towards-siberia-from-mining-city-ridder-in-kazakhstan/

2. UNEP, 2017

3. https://en.wikipedia.org/wiki/Mount_Polley_mine_disaster#/media/File:Mount_Polley_Mine_dam_breach_2014.jpg

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Impacts on Chemicals, Waste and Pollution Prevention

More mines, tailings & TMFs, more frequent & extreme weather events due to climate change

Higher likelihood for accidents and pollution from TMFs, including transboundary effects

Increased risks to people, the environment and economies

Significant costs for emergency response, clean-up, repairs, disruption of economic activity, claims for damages, and legal costs for governments and businesses

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UNECE Industrial Accidents Convention

Guidance & tools available for worldwide use

Convention

TMF Safety Guidelines

TMF Safety Methodology

Online Toolkit & Training on tailings

Fire Retention Guideline

Implementation Guide on the Convention for Central Asian countries

Practical application

- Inventories & Maps of >1000 TMFs in the Danube River Basin, Ukraine & Central Asia
- On-site trainings at TMFs to build capacity & understand risks
- Creation of Interinstitutional Working Groups on Tailings Safety and the Prevention of Accidental Water Pollution (IIWGs) in Central Asia
- Subregional/transboundary cooperation on tailings safety

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PUBLICATIONS

- **Risk assessment publication**
  - To provide an overview of risk assessment methodologies for industrial accident prevention
  - To share case studies of risk assessment methods and software available used within different countries
  - To be published by the end of 2023/early 2024
- **Joint OECD/UN/JRC Guidance on Managing Natech Accident Risk**
  - To provide guidance on addressing Natech risks
  - To feature components of COP Decision 2022/1 and the outcomes of the seminar
  - To be issued in 2024, with possible launch at COP-13

DYNAMIC ENVIRONMENT & THE CONVENTION'S ROLE

- **Dynamic strategic environment - 3 major trends**
  - **Climate change – NATECH**
  - **New economic geography**
  - **Sustainability transition of key sectors**
- **Increased relevance of the Industrial Accidents Convention, regionally and beyond for safety and environmental protection**
- **COP-13 agenda (post-Bureau) geared towards addressing these dynamic trends:**
  - SG on Industrial Safety of Energy Transition (ISET)
  - Natech guidance launch
  - Proactive integration of Satellite monitoring - InSAR exchange,
  - TMF round-table
  - Implementation reporting, incl. for TMFs

Thank you for your attention

For more information:
www.unece.org/env/teia

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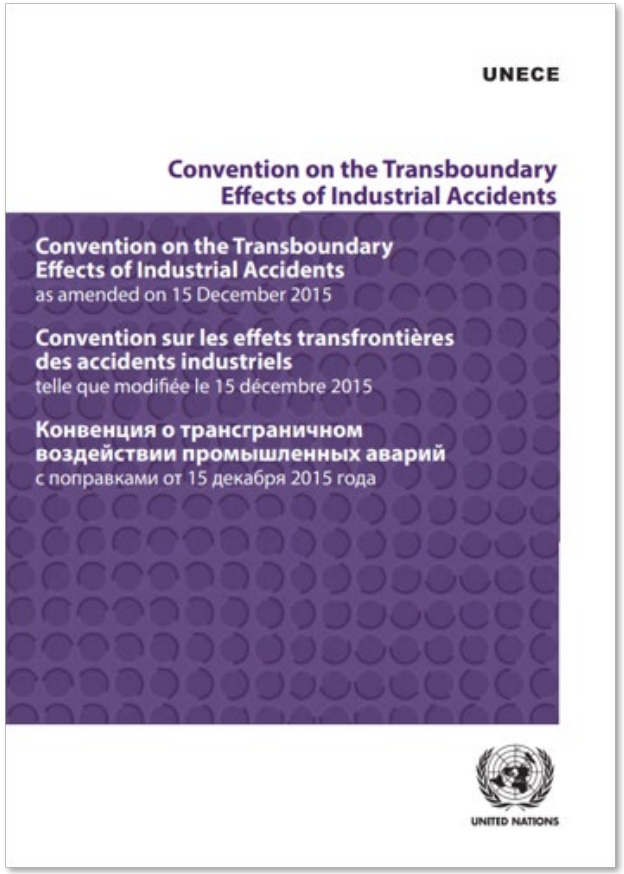
Additional information & links

Industrial Accidents Convention



- Adopted 1992, entered into force 2000, 42 Parties in UNECE region
- Purpose: To protect humans and the environment against the effects of industrial accidents
- Scope: Activities (including TMFs) that involve a hazardous substance listed in Annex I and that are capable of causing transboundary effects
- Key components: Identification/Notification, Prevention, Preparedness, Public Information/Participation, Response, Transboundary cooperation

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Safety Guidelines and Good Practices for Tailings Management Facilities

- Developed by the Joint Expert Group on Water and Industrial Accidents (JEG)
- Aim to reduce frequency and severity of TMF failures
- Provides safety principles and recommendations for governments, competent authorities, TMF operators
- Includes aspects related to i) Pre-construction and construction, ii) Operation and management, iii) Facility inspections, iv) Identification, assessment, management of abandoned sites, iv) Emergency planning
- TMF Methodology was developed to support countries in the practical application of the guidelines

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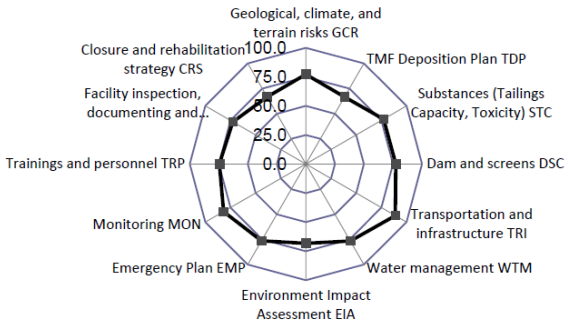
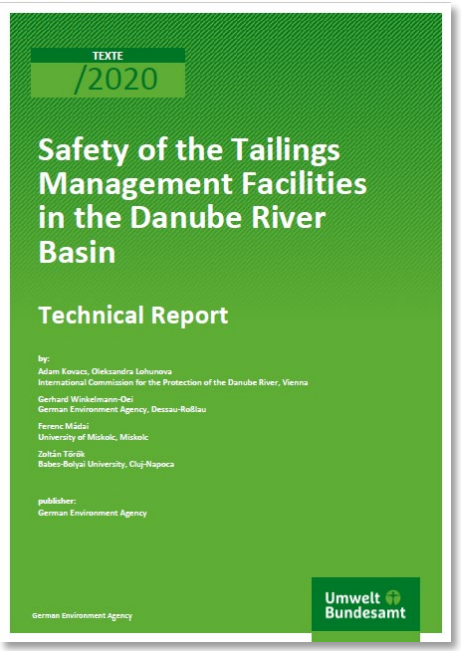
Methodology for improving TMF safety

- Created by German Federal Environment Agency (UBA) in 2016 under the project on improving the safety of TMFs in Ukraine (2013-2015), to operationalize the UNECE Safety Guidelines
- Refined in 2020 under the project on Capacity development to improve safety conditions of tailings management facilities in the Danube River Basin
- Practical tool to be applied by operators and competent authorities to reduce tailings risks
- Consists of 3 components:
    1. Tailings Hazards Index (THI) & Tailings Risk Index (TRI)
    2. Checklist methodology
    3. Measure Catalogue
- Evaluation Matrix for the TMF safety level from the checklist methodology





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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

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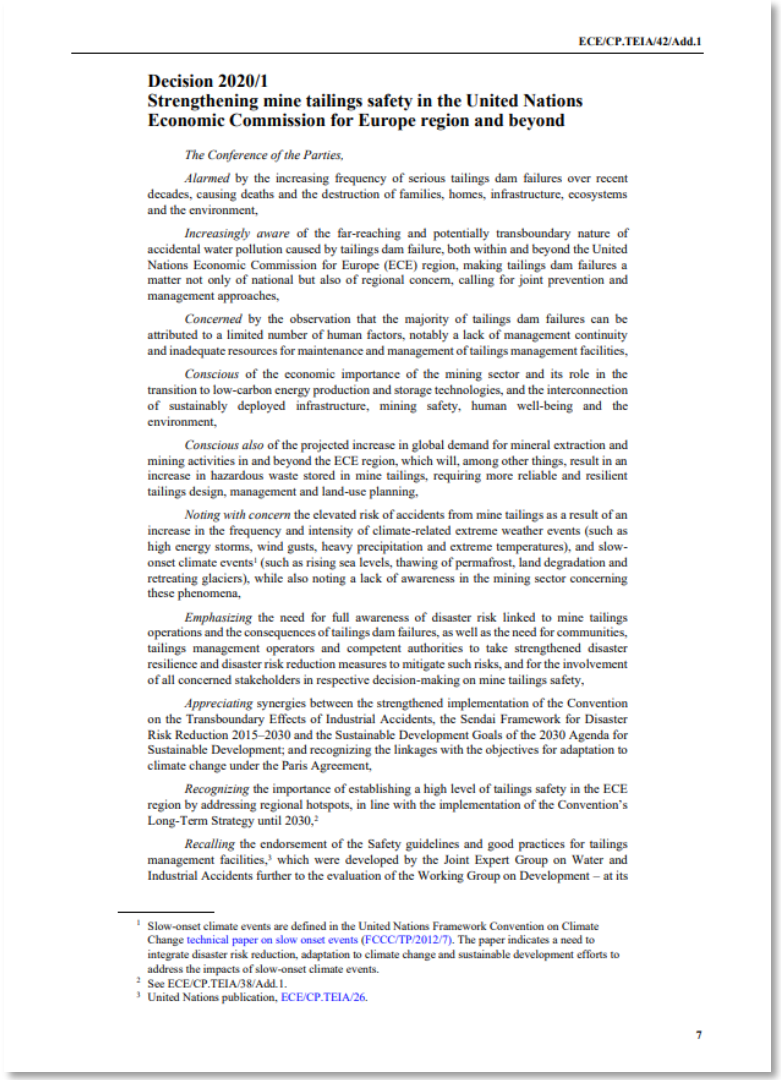
Decision 2020/1 on strengthening mine tailings safety in the United Nations Economic Commission for Europe region and beyond



ECE/CP.TEIA/42/Add.1

Decision 2020/1
Strengthening mine tailings safety in the United Nations Economic Commission for Europe region and beyond

The Conference of the Parties,

Alarmed by the increasing frequency of serious tailings dam failures over recent decades, causing deaths and the destruction of families, homes, infrastructure, ecosystems and the environment,

Increasingly aware of the far-reaching and potentially transboundary nature of accidental water pollution caused by tailings dam failure, both within and beyond the United Nations Economic Commission for Europe (ECE) region, making tailings dam failures a matter not only of national but also of regional concern, calling for joint prevention and management approaches,

Concerned by the observation that the majority of tailings dam failures can be attributed to a limited number of human factors, notably a lack of management continuity and inadequate resources for maintenance and management of tailings management facilities,

Conscious of the economic importance of the mining sector and its role in the transition to low-carbon energy production and storage technologies, and the interconnection of sustainably deployed infrastructure, mining safety, human well-being and the environment,

Conscious also of the projected increase in global demand for mineral extraction and mining activities in and beyond the ECE region, which will, among other things, result in an increase in hazardous waste stored in mine tailings, requiring more reliable and resilient tailings design, management and land-use planning,

Noting with concern the elevated risk of accidents from mine tailings as a result of an increase in the frequency and intensity of climate-related extreme weather events (such as high energy storms, wind gusts, heavy precipitation and extreme temperatures), and slow-onset climate events[1] (such as rising sea levels, thawing of permafrost, land degradation and retreating glaciers), while also noting a lack of awareness in the mining sector concerning these phenomena,

Emphasizing the need for full awareness of disaster risk linked to mine tailings operations and the consequences of tailings dam failures, as well as the need for communities, tailings management operators and competent authorities to take strengthened disaster resilience and disaster risk reduction measures to mitigate such risks, and for the involvement of all concerned stakeholders in respective decision-making on mine tailings safety,

Appreciating synergies between the strengthened implementation of the Convention on the Transboundary Effects of Industrial Accidents, the Sendai Framework for Disaster Risk Reduction 2015–2030 and the Sustainable Development Goals of the 2030 Agenda for Sustainable Development; and recognizing the linkages with the objectives for adaptation to climate change under the Paris Agreement,

Recognizing the importance of establishing a high level of tailings safety in the ECE region by addressing regional hotspots, in line with the implementation of the Convention's Long-Term Strategy until 2030,[2]

Recalling the endorsement of the Safety guidelines and good practices for tailings management facilities,[3] which were developed by the Joint Expert Group on Water and Industrial Accidents further to the evaluation of the Working Group on Development – at its

[1] Slow-onset climate events are defined in the United Nations Framework Convention on Climate Change technical paper on slow onset events (FCCC/TP/2012/7). The paper indicates a need to integrate disaster risk reduction, adaptation to climate change and sustainable development efforts to address the impacts of slow-onset climate events.
[2] See ECE/CP.TEIA/38/Add.1.
[3] United Nations publication, ECE/CP.TEIA/26.

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- In 2020, the Industrial Accidents Convention COP adopted Decision 2020/1 on strengthening mine tailings safety in the UNECE region and beyond
- Built on outcomes of the Seminar on mine tailings safety in the UNECE region and beyond (online, 1 December 2020)
- Requests Parties (and invites other countries) to increase efforts to strengthen tailings safety and prevent failures, in view of elevated risk of such accidents posed by increasing frequency and severity of extreme weather events due to climate change
- Reminds Parties that identification of hazardous activities and notification processes shall entail TMFs
- Urges Parties (and invites other countries) to facilitate the application of the UNECE Safety Guidelines for TMFs, TMF Methodology and good practices in the ECE region through capacity development, technology/knowledge transfer, sharing of experiences and lessons learned
- Calls on Parties to improve inter-institutional and stakeholder coordination at the national and local levels and across borders, while increasing transparency for communities and other stakeholders on how these risks are taken into account

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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 раскрывающихся 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

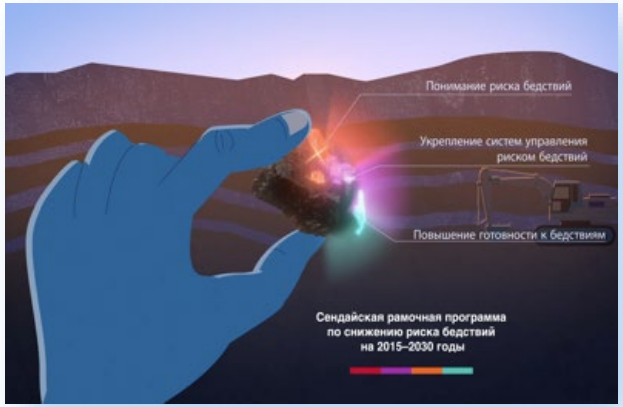
SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION 2015-2030

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)

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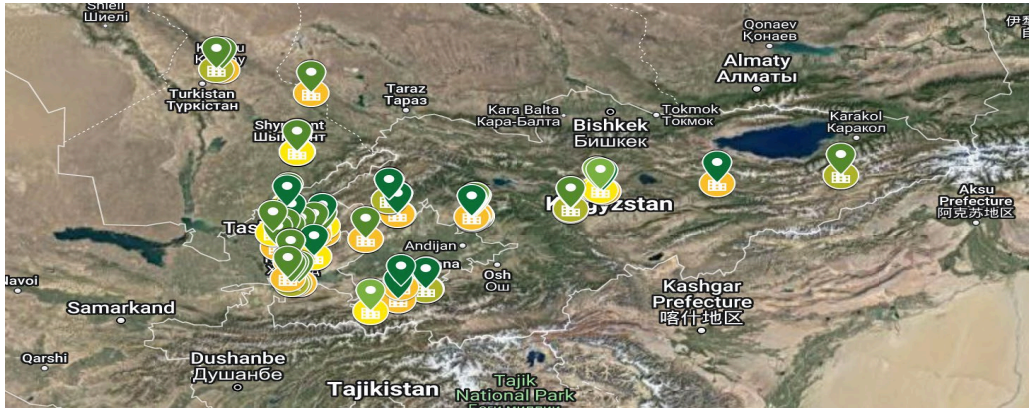
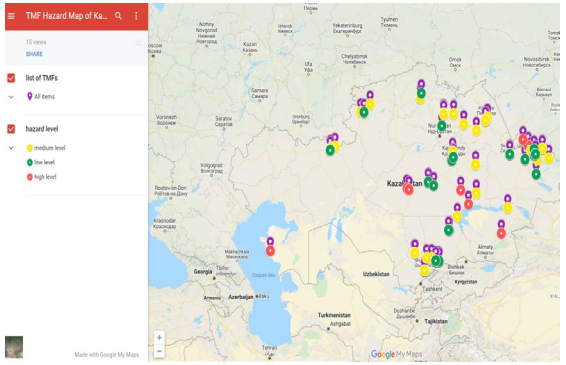
TMF mapping: Central Asia

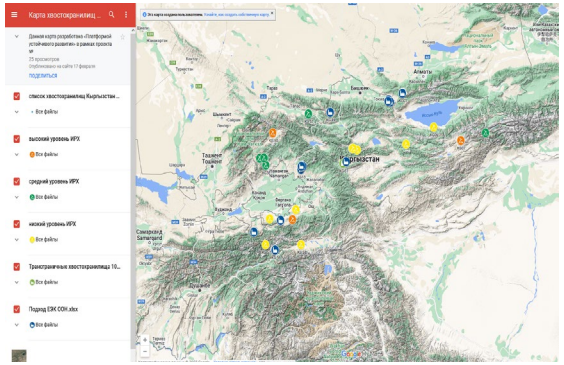
- TMF inventory project under the UNECE Industrial Accidents Convention thanks to funding by Switzerland, Germany and the EU
- 237 TMFs identified across Central Asia with 59 or 25% capable of causing transboundary effects
- All TMFs assessed using the TMF Methodology, incl. Tailings Hazard (THI) and Tailings Risk (TRI) Indexes



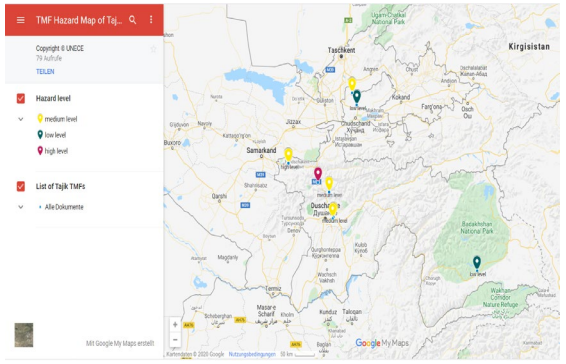
Syr Darya River basin: 61 TMFs with 33 capable of transboundary effects (19 KYR, 10 TAJ, 4 UZB)



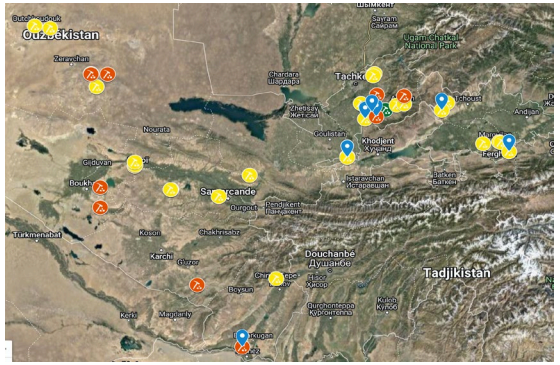
Kazakhstan: 121 TMFs with 7 capable of transboundary effects



Kyrgyzstan: 62 TMFs with 38 capable of transboundary effects



Tajikistan: 13 TMFs with 4 capable of transboundary effects



Uzbekistan: 41 TMFs with 10 capable of transboundary effects

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