Ad Hoc Expert Meeting on

Climate Change Adaptation for International Transport: Preparing for the Future

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Climate Change Adaptation in the Rail Sector

Presentation by

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CLIMATE CHANGE ADAPTATION IN THE RAIL SECTOR

Sustainable Development – 16 April 2019

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UIC

UIC MEMBERS ALL AROUND THE WORLD

- Member in 100 countries
- 3,000 Billion passenger kilometres
- 10,000 Billion tonne kilometres of freight
- 1 Million kilometres of lines
- 7 Million rail personnel
- 100 Cooperation with over 100 institutions
- 700 UIC Contracts
- New UIC (International Railway Solutions)
- 85 Congresses, conferences, workshops per year
UIC: SUSTAINABLE DEVELOPMENT UNIT

- Rail Sector representation at international level
  - SLoCaT
  - UN
  - SUM4all (WB)
  - ITF (OECD)
  - IEA

Sustainable Development Unit
- Energy, Environment & Sustainability Platform & core group

ERPC (European Railways Purchasing Conference)
- Working group on sustainable procurement

Noise & vibration Network
Energy & CO₂eq Emissions Network
Sustainable Land Use Network
Emissions Network
Sustainable mobility Network
Circular Economy Network
Eco Scoring Network

BUILDING A RESILIENT RAILWAY, AN EMERGENCY

Economic losses from extreme weather have been rising decade by decade since 1950.

- Economic losses from extreme weather have been rising decade by decade since 1950.
- Increased development of countries and regions, therefore individual events have greater effects.
- Many extreme weather events are becoming more frequent or more intense.
BUILDING A RESILIENT RAILWAY, AN EMERGENCY

According to projections from the Global Infrastructure Hub (GIH), created by the G20, infrastructure investment of US$97 trillion is required by 2040 across 57 countries and seven sectors.

Compared to the current investment trend (US$79 trillion), the global investment gap is about US$18 trillion.

As for the railway sector, infrastructure investment of US$11 trillion is required by 2040; compared to the current investment trend (US$10 trillion), the global investment gap is about US$1.1 trillion.

IMPACTS OF EXTREME WEATHER EVENTS

- Railway companies have experienced the impacts of extreme weather events in recent years;
- Consequences:
  - Cost of damage,
  - loss of traffic,
  - damage to reputation.
RAILADAPT PROJECT

- Rail Adapt project was created in partnership with: UIC, University of Birmingham, Consultants (JDCL)
- Workshops in Vienna, London and Beijing
- 90 people / 50 organisations / 20 countries
- Gave rise to a background document

RAILADAPT PROJECT

- Rail is part of a global transport system, which underpins trade;
- More globally, transport underpins society;
- Therefore, transport should be considered as a system;
- Needs on high level/wider thinking, multi-stakeholders cooperation.
RAILADAPT PROJECT: PRINCIPLES

- Railways are large, complex, adaptive systems, with many elements which have a dynamic set of interactions requiring evolving management techniques to maintain effectiveness:
  - supply chains, procurement,
  - finance,
  - human resources,
  - customer support.
- An adaptive railway: understands how ‘mature’ it is with respect to adaptation.
- four stages of maturity, from reacting to events to long term planning.
- The RailAdapt framework aims to help railways
  - to understand where they are on this maturity scale
  - to help learning, embedding that learning, and improvement.

RAILADAPT: THE ADAPTATION FRAMEWORK

The framework is divided into two sections – developing an adaptation strategy and its implementation plan.

The end goal, embodied in the vision statement, is an organisation that can change and adapt intelligently depending on the circumstances; adaptation actions become a part of normal business rather than a special project or process, all as an adaptive organisation would react.
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Thank you for your kind attention.