



INTERNATIONAL UNION
OF RAILWAYS

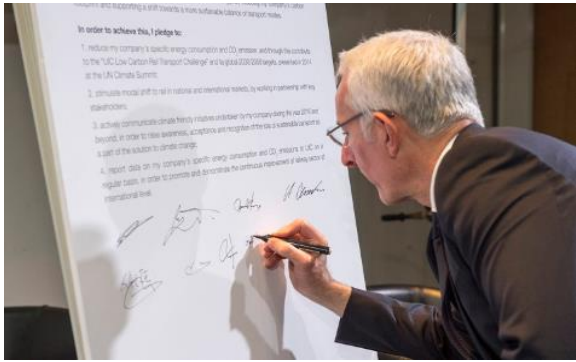
Introduction

The role of IMs in Traction Energy Transition

Bart Van der Spiegel – Infrabel

Rotterdam 11/02/2019

Climate change



Paris COP 21 – Our CEO’s pledged to reduce the specific energy consumption and CO2 emission, and through this contribute to the “UIC Low Carbon Rail Transport Challenge” and its global 2030/2050 targets, presented in 2014 at the UN Climate Summit.



Greta Thunberg, a 15 year old student from Stockholm, started in August 2018, the first school strike for climate outside the Swedish parliament building, raising awareness of global warming. In December 2018 she addressed the United Nations Climate Change Conference.



In many countries the example of Greta inspires ten thousands of children demonstrating every week in order to save our climate. Politicians don’t know how to react. But they should react now!

World Energy Outlook 2018



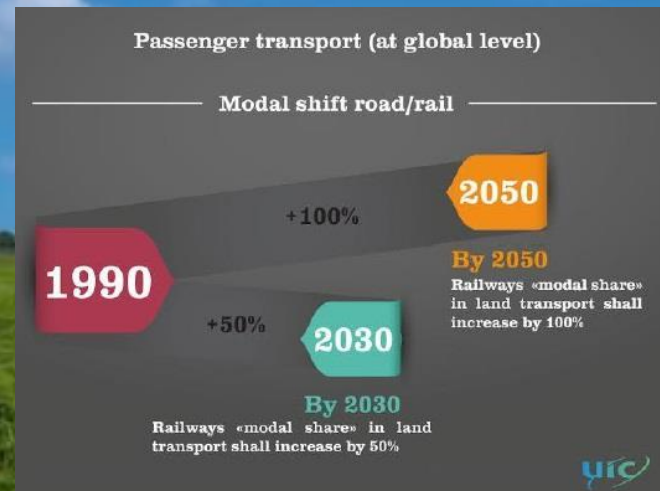
Last week Fatih Birol, Executive Director of the International Energy Agency presented the World Energy Outlook 2018 in Brussels.

- Annual CO₂-emissions keep on rising every year.
- Global energy demand is growing strong.
- Global electricity demand grows twice so fast.
- Renewables increases four times faster than electricity demand.
- Security of the electrical system becomes more and more critical.
- Storage, demand respond and hydrogen will become crucial.
- The growth of oil is driven by petrochemicals, trucks and aviation.
- Aviation in Asia is actually still 8 times smaller than in EU and US.
- Coal consumption is still increasing.
- Average age of coal plants in Asia is only 11 years.
- Investment in energy supply up to 2040: 42.3 trillion of dollars.
- Power plants have a life time of 40 years.
- 70% of global energy investment is driven by government.
- So governments need to make the right decisions.
- 60% of German electricity is generated by coal.
- An old VW has less CO₂-emissions than an electric car in Germany.

Rail is part of the solution

CO2 emissions from railways in the world are **less than 1% of total emissions.**

Railways will do their part to reduce them, but the real challenge to reduce GHG from transport is to realize a **serious modal shift from road to rail**, both in passenger and freight business!!!



The role of the IMs in the Traction Energy Transition



- Traction energy represents more than 80% of rail energy consumption.
- Previous workshops dealt with energy efficient rolling stock, efficient time table planning and Driving Advisory Systems.
- Today's workshop will focus on the role of the Infrastructure Manager in the Traction Energy Transition.

Agenda

11:15 - Improving Traction System

13:45 - Energy Storage

15:15 - Replacing diesel traction by less emitting traction systems

16:15 - Point of view from a system operator of energy market



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**Thank you for your kind
attention**

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