The European Green Deal

Transforming the EU's economy for a sustainable future

- Increasing the EU’s Climate ambition for 2030 and 2050
- Mobilising industry for a clean and circular economy
- Building and renovating in an energy and resource efficient way

A zero pollution ambition for a toxic-free environment

- Supplying clean, affordable and secure energy
- Preserving and restoring ecosystems and biodiversity
- From 'Farm to Fork': a fair, healthy and environmentally friendly food system
- Accelerating the shift to sustainable and smart mobility

And leaving no one behind

The EU as a global leader

A European Climate Pact

Designing a set of deeply transformative policies
The **European Green Deal**

**Increasing the EU’s Climate ambition for 2030 and 2050**

- European ‘Climate Law’ enshrining the 2050 climate neutrality objective in legislation by March 2020
- Comprehensive plan to increase the EU’s climate target for 2030 to at least 50% and towards 55% in a responsible way by October 2020
- Review and revise where needed all relevant legislative measures to deliver on this increased ambition by June 2021
- Proposal for a revision of the Energy Taxation Directive by June 2021
- Carbon border adjustment mechanism for selected sectors by 2021
- A new EU Strategy on Adaptation in 2020/2021

**Designing a set of deeply transformative policies**

The EU as a global leader

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- Strategy for Sustainable and smart mobility in 2020
- Revise the CO2 emissions performance legislation for light duty vehicles by June 2021
- Extend EU's Emissions Trading to the maritime sector, and to reduce the free allowances for airlines by June 2021
- Support public charging points: 1 million by 2025
- Boost the production and supply of sustainable alternative fuels for the different transport modes
- Review the Alternative Fuels Infrastructure Directive and the TEN-T Regulation in 2021
- More stringent air pollutant emissions standards for combustion-engine vehicles

Accelerating the shift to sustainable and smart mobility
The European Green Deal

- Meeting the additional investment needs
- Proposal for a Sustainable Europe Investment Plan and a Just Transition Mechanism (EUR 100 bn) in January 2020
- 25% target for climate mainstreaming across all EU programmes within the proposed MFF 2021-2027
- Proposed new revenue streams ("Own resources") and review of the Innovation and Modernisation funds to deploy climate neutral solutions
- Mobilisation of InvestEU in support of the Green Deal objectives
- Work with the EIB group (climate target to 50% by 2025) and other financial institutions (NPBs, other int’l financial institutions)
- Renewed Sustainable Finance Strategy in Autumn 2020
- Taxonomy, Corporate governance framework
- Support natural capital accounting
- Labels for retail financial investment products
- Developing EU green bond standard; integration of environmental risks in EU prudential framework

Pursuing green finance and investment and ensuring a just transition
The European Green Deal

Transforming the EU’s economy for a sustainable future

- Align all new Commission initiatives with European Green Deal objectives
- Use of better regulation tools
- Invitation of stakeholders to use available platforms to simplify legislation and identify problematic cases
- Improve ways better regulation guidelines and supporting tools address sustainability and innovation issues

Mainstreaming sustainability in all EU policies

Financing the transition

Leave no one behind (Just Transition)

A green oath: ‘do no harm’
EU Green Deal: what’s in it for Transport?

• Goal: net-zero emissions by 2050

• Extend the Emissions Trading System (→Sea, Air) – synergic with Energy Taxation Directive rev.

• Reducing carbon footprint of the transport sector:
  • Higher vehicle efficiency
  • Long-term switch to alternative fuels / more sustainable modes
  • More efficient transport system through digitalization and multimodality
Strategy for a sustainable Transport and Mobility (Q3 2020)

- Comprehensive strategy for sustainable and smart mobility
- To replace White Paper on Transport (2011)
- Ensure that European transport is sustainable, safe, affordable and accessible
- Focus on increasing the uptake of sustainable and alternative transport fuels for road, maritime and air transport
A stronger role of Railways in the transport mix is called for

Key elements for rail to play its role in fighting climate change:

• A competitive rail sector with sufficient capacity → **better use of rail infrastructure**

• Favorable conditions for rail freight and high speed passenger services → **Rail integration in the transport chain**

• Sufficiently equipped infrastructure for multi-modal transport

• Better quality of service, ease of booking, passenger rights and customer experience

→ **Green, safe, modern and sustainable transport mode.**
Connecting Europe Facility contribution

• Negotiations on-going for multiannual financial framework 2021-2027

• Connecting Europe Facility (CEF) budget to be determined

• Commission proposal for new CEF Regulation:
  • Greater emphasis on rail and waterborne transport, digitalization, and the use of alternative fuels
  • Total proposed allocation to be over EUR 30 billion
  • 60% of CEF climate expenditure
Rail Innovation, Standardisation and Digitalisation tools

- **Shift2Rail:**
  - Post-2020 partnership will focus on digitalisation and decarbonisation
  - First-ever launch of a “catalogue of solutions”: R&R results in the form of potential solutions

- **New TSIs:**
  - ERTMS game changers, with automation, satellite technologies, level 3 with more capacity and flexibility, new 5G Radio (FRMCS);
  - enhanced multimodal integration and information flows (TAP, TAF, e digital tools)

- **ERTMS:** accelerate deployment at network level, class B decommissioning
Digital and efficient railways

Rail competitiveness drivers scheme (blue: digital, orange: not green: hybrid)

- Enhanced CCS (GNSS) + TMS (speed, capacity, flexibility, OB integrity)
- Autonomous vehicles & pods-based services - responsive TMS
- Flexible, real-time, responsive enhanced capacity provision
- Simplified, automated operations on trains and terminals, Cross-border
- Single administrative mgmt. and e-docs (SW, eFTI)
- Big data & Data analytics for assets availability & efficiency
- Off-site / automated testing – enhanced braking efficiency
- Simplified infrastructure equipment / configuration
- Automated coupling / e-coupler
- New efficient (and hybrid) energy systems, lighter trains
- Long trains (TEN-T requirement)
More energy-efficient railways

A. Enhanced Transport capacity
B. More efficient Energy Systems
C. Higher efficiency (Tank-To-Wheel)
D. Proactive Energy Management Systems
Main drivers of higher rail efficiency (\rightarrow \text{less GHG}) – Capacity

A. In order to achieve it, in the current constrained networks, we need first to enhance Transport capacity:

- Capacity increase at infrastructure level (ERTMS L2/3, ATO,...enhanced Traffic Mgmt)
- Capacity increase at train level (740-m long trains,...)
- Higher load factors (integration/systemic – TAF evol., better multim. integration)
Main drivers of higher rail efficiency (-> less GHG) - Clean energy systems

B. Energy systems – innovation is proceeding at high speed in this sector, favoring clean, electric solutions:

- Electrification (higher impact with > RES)
- Hybrid Electric - Batteries
- Hybrid H2 - Electric
- H2 – FC (goal 50% efficiency)
Main drivers for Rail energy efficiency: enhanced internal Energy efficiency

C. Higher efficiency (Tank-To-Wheel) – Shift2Rail

- ATO impact: -20-40% of energy consumption
- Lighter weight (body / Running gear / converter)
- Higher Electricity converters efficiency
- Ancillary systems (passive cooling, etc.)
- Brakes (enhanced regenerative braking)
Main drivers of higher rail efficiency – Energy management

D. Energy Management Systems

• On-board Energy metering and consumption-based payments: railways to pay on the actual consumption incentivizing savings.
• Real-time energy pricing and incentives for re-use of braking power injected in the system
• Energy storage and re-use in nodes and stations is the next frontier
Thank you for your attention!