



# Towards more resilient transport infrastructure

FORESEE H2020 Project – Final conference

*Rafal Stanecki*

*R&I DG MOVE*

# Policy context

- The European Green Deal:
  - Reduction of GHG emissions by at least 55% by 2030
  - Europe to become the world's first climate-neutral continent by 2050
  - Investment on green technologies and protecting the natural environment
- The European Climate Law
- EU Strategy on Adaptation to Climate Change:
  - To make Europe a climate-resilient society by 2050, fully adapted to the unavoidable impacts of climate change

# EU Strategy on Adaptation to Climate Change

The strategy has four principle objectives:

- 1) Smarter adaptation
- 2) Faster adaptation
- 3) More systemic adaptation
- 4) Stepping up international action for climate resilience

# EU Strategy on Adaptation to Climate Change

## Action: To enhance adaptation-related knowledge

- Adaptation **modelling**, **risk assessment** and management tools
- More and better climate-related **data** on risk and losses

## Action: Reducing climate-related risk

- **Climate proofing** guidance
- EU-wide climate **risk assessment** in disaster **prevention / management**
- Climate-proof and climate adaptation **standards**
- Resilience **considerations** in construction and renovation

# EU adaptation strategy on infrastructure

*Investing in resilient, climate-proof infrastructure pays off. Infrastructure often lasts for many decades but much of the existing stock is not coping well with the changing climate. To minimize the risk of disasters and be cost-effective over its lifetime, infrastructure investments should be climate resilient. This may require an additional **upfront cost of ~3% of a project** but **resilience investments have a cost-benefit-ratio of about 1:4***

# DG MOVE initiates on climate resilience

- **Sustainable and Smart Mobility Strategy (December 2020)**
  - It contains Action Plan of 82 initiatives in 10 key areas for action (“flagships”). Commission will address this issue in both the TEN-T review and the Climate Adaptation Strategy, including through dedicated guidance on the climate proofing.
- **TEN-T Review (December 2021)**
  - Structural infrastructure quality requirement extended onto its whole lifecycle and maintenance needs taken into account
- **CEF – climate proofing requirement (June 2021)**
  - to ensure that new infrastructure projects on the TEN-T network are climate-proof

# DG MOVE Strategy for Sustainable and Smart Mobility

- Three objectives: making the European transport system **more sustainable, smart and resilient**
- ***“Infrastructure must be adapted to climate change and made resilient to disasters”***. To be addressed in both in the **TEN-T review** and the **climate adaptation strategy**, including dedicated **guidance on the climate proofing”**

# Milestones – 2030/35

By 2030

- **Min. 30 million zero-emission cars** and **80 000 zero-emission lorries** in operation
- **Min. 100 climate neutral cities**
- **Scheduled collective travel under 500 km** should be **carbon-neutral** within the EU
- **Doubled high-speed rail** traffic, rail freight traffic increases by 50%
- Transport by **inland waterways & short sea shipping** increases by 25%
- **Rail & waterborne-based intermodal** will be able to compete on equal footing with road-only transport in the EU
- **Paperless freight** transport
- **Automated mobility** deployed at a large scale
- Integrated electronic **ticketing**
- Operational **multimodal Trans-European Transport Network** equipped for sustainable and smart transport with high speed connectivity (**core network**)
- Zero-emission **ocean-going vessels ready for market**

By 2035

- **Large zero-emission aircraft** ready for market

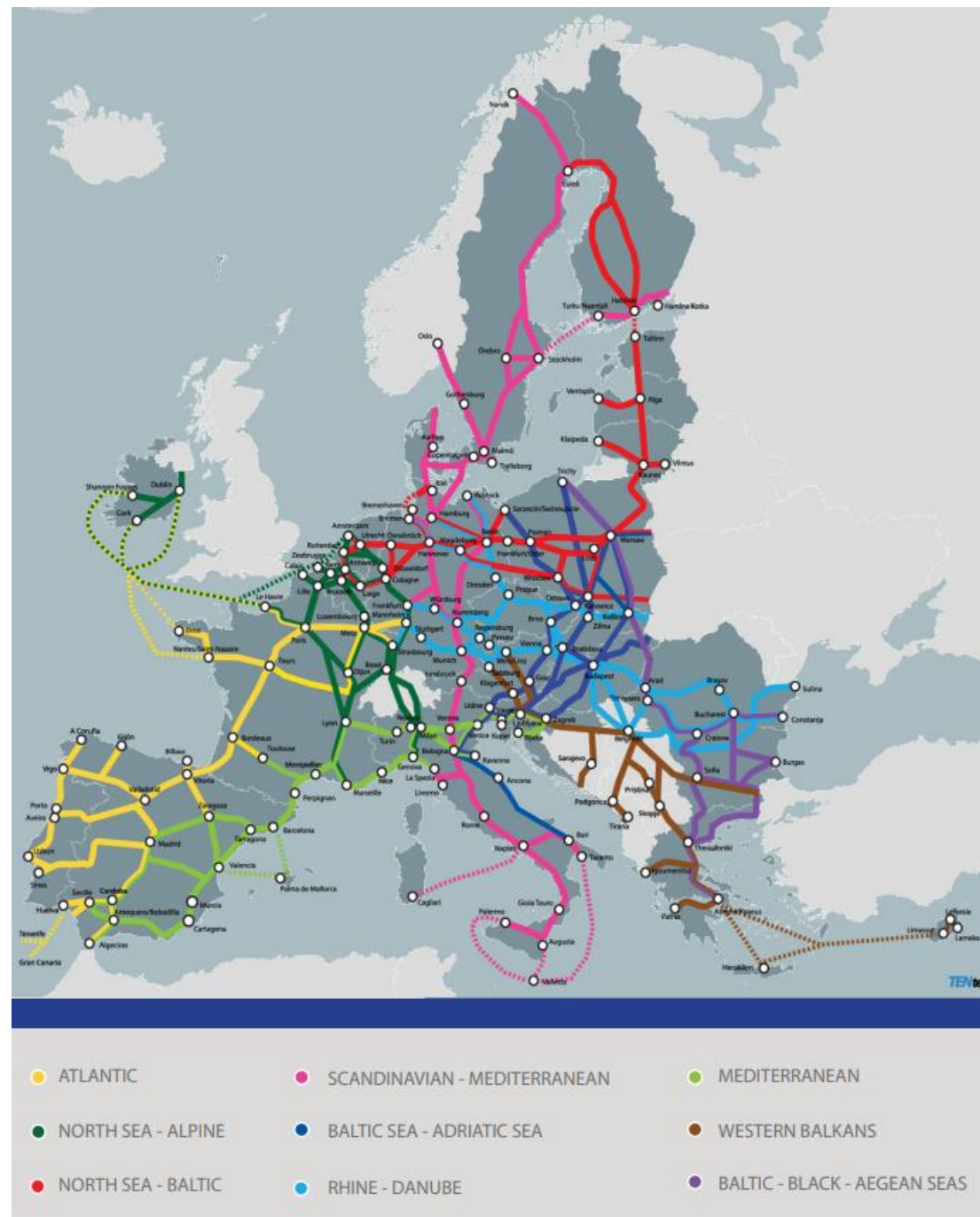


# Milestones – 2050

**By 2050**

- **Nearly all cars, vans, buses as well as new heavy-duty vehicles will be zero-emission**
- **Doubled rail freight traffic, tripled high-speed rail traffic**
- Transport by **inland waterways & short sea shipping** increases by **50%**
- **External costs** of transport within the EU will be **covered by the transport users**
- **Death toll** for all modes of transport in the EU close to **zero**
- Operational **multimodal Trans-European Transport Network** equipped for sustainable and smart transport with high speed connectivity (**comprehensive network**)

# European Transport Corridors



# Main objectives of the TEN-T revision

## General objectives

To make transport **greener** in view of reaching the climate neutrality targets by 2050

To facilitate **seamless and efficient** transport in order to better connect people and businesses all over Europe

To increase the **resilience** of the TEN-T network to climate change and other natural or man-made disasters

To improve the efficiency of the **governance tools** of the TEN-T Regulation

## Specific objectives

To provide the infrastructural basis for a **modal shift** to sustainable transport modes

To improve the **coherence and integration between the different layers** of the network including its **maritime links**

To adapt and **digitalise** the infrastructure of all modes to limit congestion and improve safety and security and to better address **needs of passengers and freight** (services, safety)

To reinforce the **role of the urban nodes** as to enable seamless passenger flows between the TEN-T and local networks

To improve the **preparedness and resilience** of infrastructure, including its maintenance

To increase **coherence and efficiency** between EU and national policies as well as between the different tools (CNC vs. RFC)

# Provisions for smart and resilient transport

## Article 44: new technologies and innovation

- **new element of cyber-security**

## Article 45: safe and secure infrastructure

- firm requirement to ensure that transport infrastructure provides for **safe and secure passenger and freight movements**

## Article 48: maintenance and project life cycle (new)

- objective: **to maintain the infrastructure in a way that it provides the same level of service and safety during its lifetime**

## Article 48: maintenance and project life cycle

- **Increased resilience of the TEN-T network to natural and human-made disasters via climate-proofing requirements and environmental impact assessments for new projects, and to the implications of an accident or breakdown (e.g. by enabling alternative route alignments to the main network**

# HORIZON Europe –EU’s R&I programme

- In the next R&I framework programme for 2021-2027 nearly €14 billion directed towards the ‘Climate, energy and mobility’ cluster and within it **nearly €400 million** for transport infrastructure, traffic management and logistics.
- **€3,700 million** for partnerships (Rail, ATM, Clean Aviation, Hydrogen, 2ZERO, Batteries, Buildings, CCAM, Clean Energy Transition, Cities)
- **€1,300 million** for missions (including Cities, and Climate adaptation)
- **35%** of total EU research funding of **€95 billion** will be spent for climate-friendly technologies

# European Innovation Council (EIC)

- EIC is Europe's flagship innovation programme to identify, develop and scale up **breakthrough technologies** and game changing innovations
- Established under Horizon Europe programme with a budget of **€10 billion** for 7 years
- **Non incremental research** opportunities
- Projects from very **low TRLs** (Pathfinder scheme), prototype stage (Transition scheme) **to deployment** (Accelerator scheme)
- Calls: Open funding and Challenge based
- Funding in the form of grant and via equity financing

# Thank you

© European Union 2020

Unless otherwise noted the reuse of this presentation is authorised under the [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license. For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders.

